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FOREIGN AGRICULTURE REPORT

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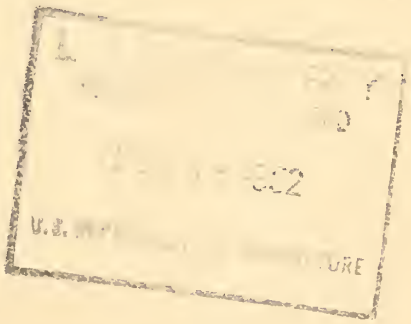
CANADIAN LIVESTOCK INDUSTRY

by



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FOREWORD

Canada as our closest neighbor is the most important single outlet for exports and the most important source of imports for United States foreign trade. The Canadian livestock industry occupies a large and growing segment of the Canadian agricultural economy. Under favorable conditions it is capable of further material expansion. Whether conditions are favorable or not depends largely upon the terms regulating the movement of surplus animals or meats to the United States. These surpluses may be viewed either as competitive by United States livestock producers or as contributive by United States meat consumers. From either point of view they are important factors in trade relations between the two countries. In order to make possible a better appraisal of future developments it was thought desirable that a study be made of the whole Canadian livestock industry with special emphasis on cattle and beef.

The study was made by C. L. Harlan, formerly head of the livestock estimating services of the U. S. Department of Agriculture and for many years a student of livestock production and marketing in the United States. Mr. Harlan spent some weeks in Canada in the summer of 1950 visiting Canadian governmental offices in Ottawa and traveling over eastern Canada and the Prairie Provinces visiting livestock market centers and production areas and interviewing livestock producers, market agencies, packer representatives, and agricultural college authorities. The results of this study are shown in this report. This project was conducted under the provision of the Research and Marketing Act of 1946.

Joseph A Becker

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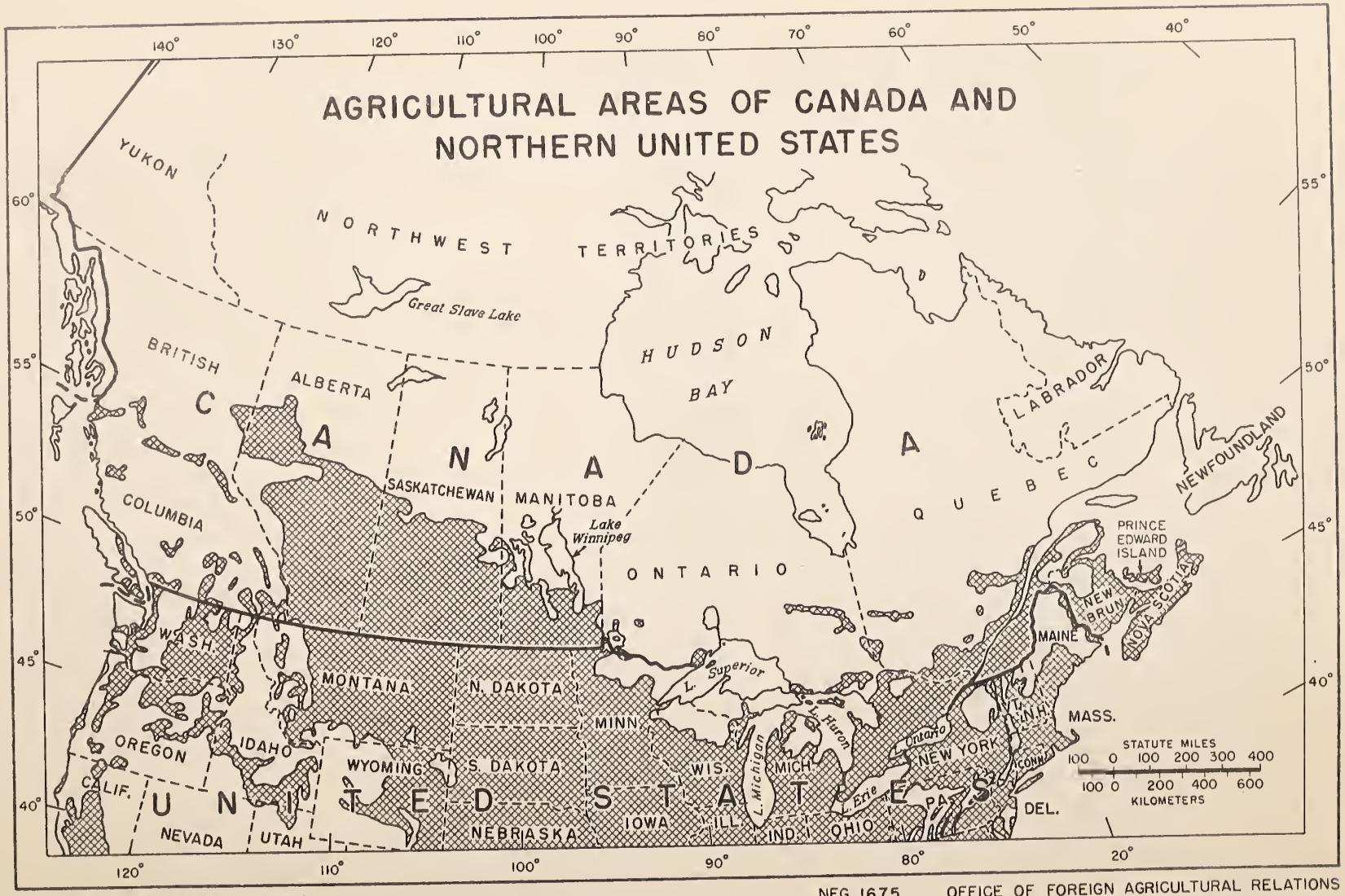

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Figure 1.

SUMMARY

The livestock industry in Canada can be considered from two points of interest. One of these is that it is competitive with the industry in the United States and that any surplus of either livestock or meats over and above what is needed for supplying the consumer demand in Canada is a threat to the livestock producers in the United States if allowed unrestricted entry into the United States. This is the producer point of view that has generally prevailed during the last 50 years. The other point of view is that Canada is a promising potential source of supply for livestock and meats which can supplement domestic production sufficiently to make possible a per capita supply of meats in the United States during the next several decades fairly equivalent to the supply of recent years. This is the point of interest of consumers in the United States who are concerned in obtaining a maximum quantity of meat for their meat dollar. The relatively high prices of meats in the postwar period, if continued, will tend to give growing importance to this viewpoint.

Cattle numbers are increasing in the United States and prevailing high prices will doubtless result in increased numbers in Canada. Exports to the United States in 1951 and probably in 1952 may be smaller than in 1949 and 1950, but after 1952 they may reach a record volume. By 1954 or 1955 the slaughter of cattle and calves and production of beef and veal in the two countries may exceed all previous totals. A part of this increased production in Canada will doubtless be reflected in a larger domestic per capita consumption of beef and veal. But much of it will show up in increased movements of live animals and meat to the United States if conditions governing such shipments are as favorable as during the last 2 years.

Although the United States markets are the most readily accessible for shipment of surplus livestock and meat from Canada, this trade has been restricted over much of the last 50 years by high tariffs and quotas and during the late war by a Canadian embargo on such shipments. A preferential market in Britain for Canadian bacon (Wiltshire sides) during the last 20 years has provided an outlet for surplus hog products, but the United States is and has been about the only available outlet for cattle and beef. Unless the postwar bacon contracts with Britain, which ended December 31, 1950, are renewed, the preferential market in Britain is closed, and any considerable surplus hog products will also have to find an outlet in the United States. Since the middle of 1948 there has been practically a free market for slaughter cattle and beef in the United States, as the reduced duty has been small relative to prevailing prices and, since September 1949, the discount of the Canadian dollar has offset the United States duty.

Imports of cattle and beef from Canada in 1949 had no measurable effect on United States prices of cattle or beef. In Canada, however, prices of cattle and calves advanced sharply, and meat costs of Canadian consumers were substantially increased. These prices advanced again in 1950, and per capita consumption of beef and veal in Canada dropped to the lowest level since 1935, a drop that was partially offset by an increased consumption of pork.

The land area of the North American Continent from the Gulf of Mexico to the Arctic Ocean is distributed about 52 percent to the Dominion of Canada and 48 percent to the United States, including Alaska. If from this whole area are excluded the units in which there is practically no agriculture - Newfoundland, the Northwest Territories, Yukon, and Labrador from Canada and Alaska from the United States - the remaining land area is distributed 40 percent to the remaining 9 Canadian provinces and 60 percent to the 48 States. North of the boundary are 14 million people and some 700 thousand farms, with about 13.5 percent of the land area in farms. South of the border are about 150 million people and some 6 million farms, with 60 percent of the land area in farms. Most of the agriculture in Canada is confined to a strip along the border some 3,000 miles long, extending from the Atlantic to the Pacific Oceans and averaging only a few hundred miles in width. In the United States agriculture is distributed generally over the whole land area.

This is doubtless the largest homogenous area in the world as regards language, customs, habits, and interests of its population, the organization and operation of its economy, its cultural institutions, and political beliefs. The fact that it has been separated into two nations, each with a distinct spirit of nationality, has tended to foster restrictive and competitive commercial relations that have influenced somewhat the development of the agricultural resources of Canada. Nevertheless, this agriculture, both in its crop and livestock aspects, is largely a northern extension of the agriculture of the northern border states of the United States, consideration being given to differences caused by changes in climatic conditions resulting from differences in latitude.

There are three general areas of livestock production in Canada - eastern Canada, the Prairie Provinces, and British Columbia. The Prairie Provinces are the principal producers of surplus livestock, and changes in total numbers of different kinds of livestock in Canada are caused largely by changes in these Provinces. The Prairie Provinces are separated from eastern Canada by the barren lands of the so-called Canadian Shield, and livestock and meats for eastern Canadian markets, or for export to European markets, must be shipped a long distance by rail. Livestock producers in the Prairie Provinces, therefore, are more concerned with a free market in the United States than are other Canadian producers.

The land resources of Canada available for the production of livestock feed are large, but the actual production of livestock in general has been limited to providing meat for the Canadian people. Total production of livestock, with cyclical changes peculiar to each species, has tended to expand as the population has increased. Over the last 50 years, exports of live animals and meats have represented outlets for relatively small surplus quantities, rather than a production aimed at exploiting favorable foreign markets. The agricultural economy of Canada on its export side has been developed toward world markets for food grains rather than for livestock products.

For the last 40 years, changes in livestock numbers in Canada have been similar, in general trends and in cyclical movements to those in the United States, as well as to changes in the totals for the border states.

There has been also fairly close agreement between changes in the various Canadian provinces and in the adjoining states. Trends in acreages of the principal grain crops in Canada and in the border states over the last 40 years have also been fairly similar. In the matter of yields per acre, there is rather close agreement for most years of very low yields and of exceptionally high yields. The weather factors influencing yields tend to be similar over the two areas, although differences in latitude seem to have influenced weather conditions in some years.

Two estimates of livestock numbers in Canada are made each year, as of June 1 and December 1. The June estimates are based upon the census of agriculture made every 10 years for all provinces and every 5 years in the three Prairie Provinces. Two surveys of livestock producers are made each year as of June 1 and December 1, mostly by means of mailed questionnaires. Returns from these furnish the basis for estimates of livestock numbers by classes, pig, calf, and lamb crops, breeding intentions, sales off of farms, and death losses. Since some time elapses before the reports based on these surveys are issued, the Marketing Services Division of the Department of Agriculture gets quarterly reports on sows bred and uses these to forecast hog marketings for 3 months in advance.

Although grain production is the dominating agricultural activity of western Canada, there are a number of fairly well-defined livestock ranching areas. These are prairie areas where either topography and soil are not suitable for grain farming or mountain areas that furnish excellent seasonal grazing. Cattle ranches usually occupy better lands than sheep ranches. Ranching methods are very similar to those found in adjoining states. Most of the cattle marketed from these ranches are stocker and feeder animals, many of which, in recent years, have been shipped into the Corn Belt states. The lambs from the prairie-type ranches are mostly sold as feeder lambs, but those from the high summer ranges usually go direct for slaughter.

There are three rather well-defined areas in Canada where cattle feeding is an important enterprise, although there is some feeding in most areas of the Prairie Provinces and Ontario. Two of these are in Alberta - one in southern Alberta, where it is usually associated with irrigated farming and sugar beet production, and the other in central Alberta, where it is associated with utilization of cover-crop pastures and local feed grain production. The third is in Ontario in an area of about nine counties that either touch directly on Lake Huron or adjoin counties that do. Many of the cattle fed are shipped in from the Prairie Provinces as feeders, but locally-grown beef type cattle are also fed. The principal feed grain is barley, and the feeding is mostly of small farm type, although there are some quite large operations. Some feeding is associated with the utilization of sugar beets and vegetable canning factory by-products. Very few long-fed, highly finished cattle are produced in Canada. The market outlet for beef from such cattle, especially for cattle weighing over 1,200 pounds, alive, is limited.

The organization of the livestock slaughter and meat distributing industries in Canada follows quite closely the patterns of these industries in the United States. There are two kinds of wholesale slaughterers:

inspected (those operating under the inspection of the Health of Animals Division) and uninspected. All meat moving in interprovincial or foreign commerce must come from inspected plants. Meat from noninspected plants is limited to local and intraprovincial distribution. There are three large companies whose operations as slaughterers and distributors are Dominion-wide, and numerous single-unit plants, mostly small, with restricted areas of distribution. The retail trade is made up of stores that buy their meat supplies from wholesale distributors, usually located in the cities and larger towns, and stores associated with small butchering operations, located mostly in small towns and villages.

The facilities used and the methods followed in marketing livestock in Canada are very similar to those prevailing in the United States. A number of officially designated public stockyards are operated under the supervision of the Canadian Department of Agriculture. Livestock for sale at these markets is consigned to commission firms who operate on a fee basis. Sales are made to packers, to order buyers, and to traders. At the five larger markets the interests in the market are organized into a livestock exchange which has limited authority to regulate trading. The movement of livestock in and out of the stockyards is both by rail and by truck, with the latter of increasing importance. In general, all sales are by direct negotiations, but there is a growing movement in favor of sales by auction.

In addition to these public stockyards, there is an increasing number of local auction sales yards. Most of the livestock sold at these yards goes direct to packing plants, or to feedlots, or for export. Nearly all packing plants also buy livestock direct either at the plant or through buyers who buy at local auctions or from growers and feeders at the farms. The proportion of all livestock marketed that goes direct has been increasing.

The marketing of livestock in Canada is supervised by the Live Stock and Live Stock Products Division of the Dominion Marketing Services. This division has a Dominion-wide organization and maintains offices at all of the stockyards markets. The activities of the division are of three general kinds: market reporting, carcass grading, and tabulating market records. The market reporting is done by trained reporters who are in direct contact with the operators at the stockyards markets while trading is in progress and who prepare reports on supplies, trends of the markets, and prices. All meat sold by grades in Canada must be graded by official graders. In the case of hogs all sales, either through stockyards or direct, must be made on the basis of carcass grades determined by official graders. All beef, veal, or lamb carcasses sold under packer grades must be graded by official graders, but sale by grades by packers, is optional.

Livestock marketing records for Canada probably excel those of any other country in detail and accuracy. The basic information is compiled at stockyards markets by experienced tabulators from records taken from manifests and scale tickets, and for packer direct purchases it is taken from packer records by tabulators in the grading offices. The records from different points are sent each day to the market information section of the Marketing Services in Ottawa, where they are consolidated to show by weeks and months total marketings at stockyards and direct to packers and the origin of these supplies by kinds and by grades, by provinces and counties or crop districts. These records also are used to compute average prices by kinds and grades in different markets and total value of livestock marketed.

The role of Canada in international trade in meat animals and meat has been almost exclusively that of an exporter. Although the primary purpose of livestock producers has been to supply meat for Canadian consumption, there have always been some shipments of live animals and meats. In some years, exports have been a substantial proportion of total output, particularly during the war and postwar periods of the two World Wars. The only livestock production in Canada undertaken for the purpose of supplying a specific export outlet is that of the bacon-type hog. This production is aimed at producing Wiltshire sides for the British market that will be comparable with such sides from Denmark. Under agreements with the British Government, the maximum quantities that would be taken year by year have been set. No contract has yet been made for 1951, and if none is made the British market will be closed. The only other available large outlet is the United States. Under wartime conditions a market in Britain has been available for beef, but in other periods that market has taken little. Hence the normal export outlet for cattle and beef is the United States. During the past 50 years these exports have been materially affected by the United States tariff on cattle and beef. When the tariff rate was high relative to prevailing cattle prices, the movement was small; when there was no tariff or when the rate was low in relation to cattle prices, shipments to the United States reached a relatively large volume. The present situation, with a tariff which is reduced in cents per pound and especially low in relation to prevailing cattle prices and with the discount of the Canadian dollar, is favorable for shipments of both cattle and beef to the United States, and these have reached a large volume since the embargo on such shipments was ended in 1948.

The only way that feed production from pastures and meadows can be utilized is by cattle and sheep. This production could be materially expanded, but the problem facing producers of these animals is not that of producing the maximum number possible, but of adjusting the production to a volume that can be marketed through available outlets at prices comparable with those of other agricultural products. Exports to the United States seem to be about the only presently available outside outlet for Canadian cattle and sheep. Hence, producers in Canada are vitally interested as regards the future conditions under which such shipments can be made. If cattle and beef can continue to move from Canada to the United States under conditions no more unfavorable than during the past 2 years and if cattle prices remain at levels comparable with the average of those years - which would be considerably below those of early 1951 - beef cattle production would be sufficiently remunerative, both actually and relative to other products, to encourage an increase in numbers and also an expansion in feed production. This expansion could come both from a shift of wheat acreage to grass and by increasing production from present pastures and meadows by improved cultural methods.

The problem facing hog producers, who are also generally feed grain farmers, is the number of hogs that should be raised to bring the highest returns from the sale of both hogs and grains. With the prices of feed grains supported at an established floor, hog prices should be at least high enough to bring a return per unit of feed fed, over and above other costs, equal to the floor. The hog-barley ratio is an indicator of the relative profitableness of feeding grain to hogs at different periods but is not an exact measure of profit or loss in the hog enterprise. If the

British outlet is no longer to be available for setting a floor under bacon hog prices, some other export outlet must be found for any surplus above what Canadian consumers will take at a favorable price. The only other large outlet is the United States. If any considerable volume of hogs or products move to the United States, the prices of hogs in Canada will follow prices in the United States even more closely than in the past.

The expenditures for meat in Canada, as in the United States, have been rather closely related to total consumer expenditures - which normally vary directly with consumer incomes. Before the war the per capita expenditures for meat made up about the same percentage of total per capita expenditures in the two countries. During the postwar years, however, the percentage spent in Canada has been substantially above prewar and above that in the United States. The per capita consumption in the two countries has increased about the same over prewar, but retail prices in Canada have increased much more rapidly than in the United States, especially in 1949 and 1950 after the United States outlet for cattle and beef became available. With a free movement of meat animals and meats between the two countries, prices of the combined supply will be determined largely by combined demand. Canadian consumers, with average incomes a third smaller than in the United States, will have to compete with the higher income consumers in the United States, and will have to pay retail prices not much less than those in the United States. Under these conditions they will either have to continue to spend a larger proportion of their incomes for meat or reduce the per capita consumption. It seems not unlikely that during the next few years a smaller proportion of the meat animals marketed and of meat produced from slaughter in Canada will go into Canadian consumption.

INTRODUCTION AND APPRAISAL OF PRESENT SITUATION

One of the most striking facts revealed by a study of the livestock industry of Canada is the close similarity between the industry there and in the United States, particularly the border states. This is shown not only in the kinds of livestock and methods of production, but also in the methods of marketing, slaughter, and processing and in the distribution of meats and meat products. This similarity is not surprising when it is considered that in most cases the boundary line between Canada and the United States is no more a line indicating differences than is the boundary line between adjoining states in the United States. It is true that in Quebec and adjoining areas largely populated by people of French descent, and where French is the customary language, there are rather noticeable differences evident on crossing the line from the United States, but these differences are no greater than those found between the French-speaking and other areas in Canada itself. The North American Continent from the Rio Grande north is doubtless the most homogenous large area in the world, as regards language, customs, habits, interests of its population, organization and operation of its economy, and cultural institutions and underlying political beliefs. It is also the only area with such similar peoples and institutions that is separated into two politically independent nations, each with a rather highly developed nationalistic spirit. It is largely this political separation and the attendant national

policies that have tended to build up and foster competitive and restrictive economic relations in a situation where most other interests would have encouraged a cooperative or complementary economic development. The livestock industry and agriculture generally in Canada during the past 50 years has developed in this competitive situation.

The western movement of agriculture and of the livestock industry in Canada was different from that in the United States. In the United States it was a constant pushing of the frontier westward after the barrier of the Appalachian Mountains was passed early in the 19th century, and this westward movement was general all the way from the Gulf to the Great Lakes. The movement in Canada north of Lakes Ontario and Erie tended to parallel the movement in New York and Ohio on the south side of the Lakes, but further movement directly to the west was barred by Lake Huron and Georgian Bay. North of these bodies of water were the barren lands of the Canadian or Pre-Cambrian shield, which interposed an almost impassible land barrier to western migration. Until the Canadian Pacific Railroad was completed across Canada in the middle 80's, communication and movement between eastern Canada and the Prairie Provinces was either by water over the Lakes or across the United States by rail and other available land transport. The Northern Plains area of the United States covering parts of Minnesota and Montana and all of North Dakota was largely taken up before a large movement of farmers and stockmen into the Prairie Provinces started. A considerable part of the movement into these provinces was by United States farmers hunting a new frontier where lands could still be homesteaded.

An indication of the relative growth of livestock north and south of the border is shown by the number in Montana in 1901 and the total of the three provinces for the same year. Montana had 975,000 cattle and nearly 5 million sheep compared with a total of 941,000 cattle and 182,000 sheep in the three provinces. In the same year North Dakota had 572,000 cattle and 528,000 sheep.

Exports and the Effects of United States Tariffs

For two decades before 1900 there were some exports of cattle and considerable exports of sheep from Canada, both to the United States and Britain. The bulk of the cattle went to Britain direct or were re-exported from the United States; the bulk of the sheep went to the United States, partly for re-export. At the same time there were large exports of both from the United States to Britain. The export movement during this period was almost entirely of stock from eastern Canada, which did not show up in receipts at any of the important western livestock markets in the United States. It was not until about 1900 when a rapid expansion of cattle and sheep took place in the Prairie Provinces that these provinces threatened to compete with the western grass regions of the United States as a source of supply. Livestock interests in the western states then sought tariff protection to keep out Canadian and Mexican cattle, and in the late 1890's a duty of $10 a head on cattle and $2 on calves was imposed on live cattle. The effect of this was to reduce Canadian exports of cattle to the United States to very small numbers during the first decade of this century. After the duty was repealed in 1913, exports to the United States increased, and the spread in prices narrowed. Since 1921,

when duties were again imposed, until the present time, a succession of tariffs, trade agreements, quotas, embargoes, exchange fluctuations, and controls have influenced or determined the movement of cattle to the United States. The movement of hogs and hog products to the United States has never reached an appreciable volume and has been little affected by tariff changes. Exports of sheep from Canada to Britain and to the United States declined almost to the vanishing point during the period from 1900 to 1911. During the free trade period from 1914 to 1921 exports to the United States began to assume considerable volume but dropped off sharply when duties were again imposed in 1921-22 and have been practically negligible since, except in a few recent years.

In the early years of this century when both Canada and the United States were exporting rather large number of cattle, largely to Britain, the export prices tended to hold the prices of cattle fairly close together in the two countries. When supplies of cheap South American beef began to take over the British market and to eliminate British imports of live cattle, the United States became the only foreign outlet for Canadian cattle. During the free trade period from 1914 to 1921, prices in the two countries were at about the same, but when duties were again imposed the spread tended to widen to the equivalent of the duty. During the late war and postwar period, 1943 to 1948, the Canadian embargo on shipments of cattle and beef to the United States resulted in a spread that was equivalent to 80 percent of the Canadian price after price controls were removed in the United States.

This, briefly, is the history of the effects of changes in United States tariffs on the livestock industry of Canada during the past half century. From 1943 to 1948 when Canadian controls on exports shut off most shipments of livestock and meat products to the United States, the tariff rates were reduced to the lowest levels since free trade ended in 1921. In August 1948 the embargo on shipments of cattle and beef was removed and that on live hogs and fresh pork ceased at the end of 1950.

Effects of the Removal of Controls

Beginning with 1951 the livestock industry in Canada enters again on a system of free marketing; livestock producers will be able to ship their live animals and the packing industry its meat products where they can obtain the highest prices. But restrictions on this movement of Canadian products are not all ended. The yearly contracts with Britain which gave Canadian bacon a preferential position in the British market ended in 1950 and may not be renewed. If not renewed, the possibility of shipping pork products to Britain comes to an end, and any Canadian surplus must find another outlet. About the only other outlet in sight is the United States.

Effects on Canadian producers. With the ending of controls the full impact of demand in the United States for livestock and meats will become effective in Canadian markets. Meat animals and meat can now move back and forth between Canada and the United States without limitation, except for the respective sanitary and health regulations and the customs duties in effect on such shipments. In cents per pound these duties are the lowest since 1922, and relative to current prices of livestock and meats they are

the lowest ever imposed. At the beginning of 1951 the situation of Canadian producers in relation to United States markets was essentially the equivalent of free trade since the exchange discount on the Canadian dollar offset nearly all of the tariff and in some circumstances a part of the additional costs of shipments to the United States. Canadian prices in Canadian dollars will tend to equal United States prices in American dollars, and the situation will continue as long as the discount on the Canadian dollar is as much as 5 percent. In the case of cattle, this situation has prevailed for some months. Canadian prices began to advance toward United States levels even before the embargo was lifted in 1948, in anticipation of this action. When the Canadian dollar was devalued 10 percent in September 1949, the price gap was soon eliminated, and during much of 1950 cattle prices in Canadian markets in Canadian dollars were as high as or higher than prices in the United States for comparable grades of cattle. This situation was modified somewhat in October 1950 when the Canadian dollar was allowed to reach its own level in the free exchange market. This resulted in reducing the discount from 10 to around 5 percent, and cattle prices in Canada in relation to United States prices declined even more than the appreciation of the Canadian dollar.

Effects on Canadian consumers. In contrast with the present favorable position of livestock producers in Canada, the situation of the Canadian meat consumer has become increasingly difficult. The prices of meats, following the prices of livestock, will be largely determined by the level of prices in the United States. In fact, the current situation is one where the combined demand from consumers in the two countries will determine the prices of meats, and hence the prices for the combined supply of livestock in the two countries. In the past, the amount of money spent for meat in the two countries has tended to be rather closely related to consumer expendable incomes, and per capita expenditures for meat have been similarly related to per capita expendable incomes. As shown in Table 25 the expenditures for meats per capita in Canada were distinctly smaller than in the United States, but the percentage of income spent for meats was not greatly different. In the war and postwar years both the per capita expenditures for meat and the percentage of income spent for meat in Canada were much higher relative to prewar than in the United States. However, the relationship between per capita expendable incomes in the two countries has changed very little from that of prewar -- the per capita in Canada being about two-thirds of that in the United States, both in terms of their respective dollars. Thus, Canadian consumers with much smaller average incomes will have to compete with consumers in the United States. Unless Canadian incomes expand relative to incomes in the United States, Canadian consumers will have to continue to spend a relatively larger percentage for meats or will have to reduce their consumption of meats.

This free market in livestock and meats will have an opposite effect on livestock producers and meat consumers in the United States. It will tend to be to the advantage of the meat consumer as the increased supplies of livestock and meats in the United States may keep prices below the level they might otherwise reach. Such increases in livestock supplies in United States markets, however, may tend to hold down prices for home-produced livestock, and thus be to the disadvantage of domestic producers.

An exact measure of these different benefits and disadvantages cannot be made, but some indication of what they may have been in 1949 may be derived from available figures. If Canadian consumers in 1949 had spent only about the prewar percentage of their per capita incomes for meats -- perhaps 5.5 percent -- these expenditures would have been only about $45 per capita instead of the $62 indicated. With no changes in price per pound the quantity bought would have been reduced by about 28 percent, or about 36 pounds. This would have cut the total down to 93 pounds, much below any previous figures. If the consumption had only been cut to the lowest on record of about 109 pounds, the reduction would have been 19 pounds or 15 percent. At the same prices, the expenditures per capita would have been $53, or 6.5 percent of total expenditures. If, however, shipments to the United States had been eliminated and all of the meat produced in Canada and from animals exported alive had been consumed in Canada, livestock and meat prices would have been much lower than they actually were and consumers could have bought more meat for less money. The exports of meats in 1949 were equivalent to about 14 pounds per capita, making no allowances for the meat equivalent of slaughter animals, mostly cattle, exported alive.

With no export outlets for livestock and meats in 1949, prices in Canada doubtless would have been much lower than they were. The yearly average price of beef steers at Chicago in 1949 was about the same as in 1947 -- $25.80. The yearly average at Toronto was $14.28 in 1947 and $20.45 in 1949. This indicates that the free movement to the United States in 1949 added over $6 per hundred to the price of beef steers in Canada.

1949 Exports of Cattle to the United States

The livestock producers in the United States who met substantial competition in the home market from Canada were producers of cattle. Imports of other kinds of meat animals or animal products from Canada in 1949 were negligible, but imports of cattle and of beef were substantial. Imports of cattle and calves were 418,000, of which 31,000 were calves. Of the cattle, 20,000 head were breeding animals, on which there is no duty, and 51,000 were dairy cattle. Of the 347,000 head of other cattle and calves, 207,000 head were for immediate slaughter and 139,000 head were stocker and feeder cattle, mostly of beef types. The 31,000 calves were largely veal calves for slaughter. The duty on these cattle and calves other than breeding was 1 1/2 cents per pound. Of the 71,000 head of dairy and breeding cattle brought in, 69,000 head came in at United States ports of entry located along the eastern boundary from Maine to Michigan; the balance crossed at ports west of Lake Superior -- Minnesota to Washington. Of the 207,000 head of slaughter cattle and calves brought in, 136,000 head, including most of the slaughter calves, crossed the eastern boundary and 71,000 west of Lake Superior. Of the 139,000 head of stocker and feeder cattle brought in, 6,000 crossed at ports along the eastern line and 133,000 at ports along the western line. Included in these feeder shipments were an unknown number of stock calves. The United States records of entry by kinds do not separate calves from cattle. The 31,000 calves shown herewith are from Canadian records. The 51,000 head of dairy cattle imported were mostly replacement cows for dairy farms in the New York and New England fluid milksheds. The 20,000 breeding cattle were largely purebred dairy cattle going into the same

area but also included some purebred cattle of beef breeds going to various destinations in the United States but mostly to states west of the Mississippi River. The slaughter cattle came in relatively large numbers through ports in New York and Michigan, mostly through Buffalo and Detroit, and through ports in Minnesota, North Dakota, and Washington. The entries through Minnesota and North Dakota went largely to packers located at South St. Paul and Sioux City and interior Minnesota and Iowa points. The Washington entries came largely through Spokane.

Nearly all of the feeder cattle crossed at ports along the western line. Some of these went to stockyard markets in Minnesota, Iowa, and Washington for resale, but a large part went direct to farms or ranchers or country feeder dealers in nearby states. Many were bought at country points in Canada and did not go through Canadian stockyards markets. The slaughter cattle crossing along the eastern line included a large proportion of low-grade cows and discarded bulls, but there were also a good many loads of cattle from Ontario feedlots. Most of these cattle went direct to packers, but some were consigned for sale at the Buffalo and Detroit stockyards. Of the cattle and calves going through the Buffalo stockyards about 55 percent were for sale, 14 percent went direct to Buffalo packers, and 31 percent were in transit. The slaughter cattle crossing along the western line were mostly beef-type. During the first half of the year they come from Prairie Province feedlots; in the fall they are grass-fed steers and cows from farms and ranches in the same area.

Because of the diverse character of cattle imports and their wide distribution over the northern boundary states, no measurement can be made of their possible effects on cattle prices in the United States, but some indication can be given of their relative volume and the types of producers who might have been adversely affected. As regards the dairy cattle, the provinces of Ontario and Quebec have long been a source of replacement cows for New York and New England dairy farmers. It is an advantage for these farmers to have this nearby source of supply. Without it, more replacement cows would have to be brought in from the middle western states, largely Wisconsin and Minnesota, possibly at greater cost since prices of middle western cows might be raised. The net effect on all dairymen, buyers, and sellers combined, however, would be little, since the higher price benefit to the sellers would be offset by the higher cost to the buyers. Much the same analysis pertains to breeding cattle, except that there is no established price series for such cattle to permit some measurement of the effect of imports from Canada on prices in the United States. Also, it is probable that many of the breeders who sell in this country buy, directly or indirectly, breeding cattle that originate in Canada.

Relative Importance of Slaughter and Feeder Cattle Exports to the United States

Some measure of the relative importance of imports of slaughter and feeder cattle to the total volume of such cattle marketed yearly in the United States can be made. In 1949 the estimated commercial slaughter in the United States was 18.0 million cattle and 10.8 million calves; in federally-inspected plants it was 13.2 million cattle and 6.4 million calves.

In all of New England and in the 6 other border states, commercial slaughter was 3.1 million cattle and 2.8 million calves. The total inspected slaughter in these states in 1949 was 2.0 million cattle and 1.6 million calves. Imports of slaughter cattle in 1949 were 176,000 cattle and 31,000 calves. In the case of cattle, these numbers are 1.0 percent of total commercial slaughter, 1.3 percent of total inspected slaughter, 5.7 percent of commercial slaughter in the border states, and 8.8 percent of inspected slaughter in these states; for calves the respective percentages are 0.3, 0.5, 1.1, and 2.0. At four stockyards markets with records of receipts from Canada and total recipts (South St. Paul, Sioux City, Spokane, and Buffalo) the reported receipts from Canada, which include both cattle for sale and cattle stopping en route, were 135,000 cattle and calves in 1949, and total reported receipts were 2.8 million cattle and 847,000 calves. Receipts from Canada were 4.8 percent of the total for cattle and 3.6 percent for total cattle and calves.

In 1949 imports of feeder cattle from Canada were about 139,000 head, of which about 134,000 entered at western border points. The total interstate movement of feeder cattle and calves in 1949 is estimated at 7.5 million head, and reported shipments from public stockyards were 5.1 million. Shipments of feeder cattle and calves from the four markets located in the western border states totaled 412,000. Direct shipments of stocker and feeder cattle into Michigan, Minnesota, and Iowa were 6,300, 111,300 and 485,600 respectively -- a total of about 603,000. These are the only border or near-border states with such records. Of these numbers, direct shipments from Canada were 2,400, 1,200 and 8,000, a total of 11,600. Available information shows that the bulk of these Canadian stocker and feeder cattle go direct to feedlots or to farms and ranches or to feeder dealers for resale at local auction markets or by private agreement, rather than to public stockyards. Hence they add little to the visible supply of such cattle at public markets and offer little competition to domestic supplies at these markets. As regards these markets, their effect is to reduce demand to the extent that they satisfy a demand that might otherwise seek a supply at the markets.

These imports of stocker and feeder cattle in 1949 were equivalent to 1.8 percent of the total interstate movement of such cattle, 2.7 percent of shipments from stockyards, 30.5 percent of estimated shipments into the western border states (6.4 percent of the total if Iowa and South Dakota are added). The reported direct shipments, from Canada into Michigan, Minnesota, and Iowa were 1.8 percent of total direct into these states.

Any attempt to appraise the possible effects of these imports of slaughter and stocker and feeder cattle on prices of such cattle in the United States should be made in the knowledge that the levels of prices of such cattle are established by concurrent developments at all markets where cattle are bought and sold and that it is over-all demand in relation to over-all supply of cattle for sale that sets these levels. It is quite possible that a heavy run of Canadian slaughter or stocker and feeder cattle at a single market over a period of a few days might result in changes in prices at that market different from those shown by other markets in the same region and from the average over-all change. But prices at

such a market would not long continue out of line with those at other markets. Domestic cattle producers who have shipments on a particular market when a relatively large run of Canadian cattle depresses prices out of line with other markets would seem to be the ones most adversely affected by competition from imports from Canada.

Exports of Beef and Veal to the United States

The exports of fresh beef and veal from Canada to the United States in 1949 are reported at 94.9 million pounds dressed carcass basis. Records showing the destination of these exports or showing the ports of entry into the United States are lacking. General information from trade sources indicated that most of the shipments went either to the Atlantic or Pacific seaboard states. They included carcass beef for the fresh meat trade and boneless cow and bull beef for the sausage and processed meat trade. The carcass beef included a relatively large number of fairly well finished carcasses weighing over 700 pounds, which is above the weight desired by the Canadian meat trade. The carcass beef shipped to the United States in the first half of the year was largely from feedlot cattle. This beef went mostly to wholesale meat dealers; in most cases the sale was negotiated before shipment, but appreciable quantities were consigned to brokers for sale. The veal exported was generally in the form of dressed carcasses, skin on. The boneless beef was largely shipped following orders received or sales made, although some of it was from cattle bought on orders from the United States and custom-slaughtered in Canada. This beef was usually processed by the buyers in the States and sold as sausages, frankfurters, or other processed meats.

The estimated total production of beef and veal in the United States in 1949 was 10.8 billion pounds; in inspected plants it was 7.7 billion pounds. There are no records of consumption of meats by regions, but it is probable that 40 percent of the total production and 50 percent of the production in inspected plants was consumed in the regions into which most of the Canadian beef was shipped. The imports from Canada in 1949 were about 0.9 percent of total beef production in the United States and 1.2 percent of production in inspected plants. It may have been 2.2 percent of the total consumption and 2.4 percent of the consumption of inspected beef and veal in the regions into which most of it was shipped.

The competition of Canadian carcass beef in United States markets should be most apparent in the wholesale meat markets where substantial quantities are offered for sale to retailers or to the hotel and restaurant trade. This competition would be largely with branch houses of American packers. If these offerings were only occasional, they might weaken the price structure of all dressed beef at the points where offered for a short time. If they were a constant supply, they might reduce the quantity of American beef handled at some points. But since wholesale prices of dressed beef at different markets tend to be equalized around a United States average, the actual weakening of domestic beef prices from an addition of 1 to 2 percent to the total quantity can hardly be measured.

Significance to United States Consumers of Imports of Canadian Livestock and Meat

Just as it is impossible to make any tangible measurement of the disadvantages, if any, to United States cattle producers in 1949 as a result of price weakening caused by the importation of Canadian cattle and beef, so is it impossible to appraise any monetary benefits that may have come to meat consumers as a result of lower meat prices caused by increased supplies of beef and veal. To imports of beef and veal of 94.5 million pounds should be added the meat from the imported slaughter cattle and calves estimated at about 75 million pounds. The total of 170 million would be an addition of about 1.1 pounds per capita. The per capita consumption in 1949 is estimated at 72.1 pounds of beef and veal and 143.8 pounds of all meat. Hence the Canadian contribution of 1.1 pounds was about 1.5 percent of the total beef and veal and 0.8 percent of the total of all meats. Total production of beef and veal in the United States in 1949 was 10.8 billion pounds to which Canadian supplies contributed 170 million or 1.6 percent.

It is fairly well established that the United States consumers, tend to spend a fixed percentage of their expendible income for meats, regardless of the supply. If this situation prevailed in 1949 the estimated expenditure for meats of around 10.5 billion dollars would have been little different if there had been no addition to the supply from Canadian imports. Thus the benefits to United States consumers would seem to have been in the form of more meat for the same money rather than in a reduction of their meat expenditures.

Livestock Numbers and the Outlook for Canadian Exports to the United States

To no small degree the future trend of livestock production in Canada depends upon the conditions under which meat animals and meat products can be marketed in the United States. This statement is particularly applicable to cattle. As regards hogs, there is the possibility that the English bacon market may be kept open or be reopened to Canadian products. So long, however, as British imports of foods are obtained by bulk buying by the Ministry of Foods there will be no free market in Britain and Canadian shipments will be determined by intergovernmental negotiations involving both quantities and prices. The uncertainties of such a market are evidenced by the developments during 1950. An import quota for Canadian bacon at a fixed price was agreed upon at the end of 1949. This quota was fixed at 65 million pounds -- much smaller than previous quotas and much below actual shipments to Britain in any years between 1934 and 1938. At the same time it was announced by the British that the 1950 contract would be the last and that after the end of that year Britain would take no more Canadian bacon. Discussions during 1950 of the future of the Canadian hog industry were predicated on the expectation that the British market was closed. However, late in 1950 the British came forward with an offer to take up to 130 million pounds of bacon in 1951, but a new agreement was not reached. If there were such an agreement with Britain, Canadian hog producers might have the protection of a minimum price based on a British bacon contract; at the same time they could sell in the United States market if it would offer a better outlet, inasmuch as the Canadian embargo on shipments of live hogs and fresh

pork to the United States ended on December 31, 1950. But with no British outlet and with a free movement of hogs and products between Canada and the United States, the price of hogs will be determined largely by the joint supply and joint consumer demand.

Of all species of livestock, cattle offer the greatest possibilities for a maintained increasing production. Present cattle numbers are not large enough to make the most efficient use of available feed and roughage supplies, and these feed supplies could be materially increased within a relatively short period of years if an assured outlet for the livestock, principally cattle, needed to utilize the feed were assured. The British market for Canadian cattle and beef seems closed for an indefinite future, and any exports to Britain would have to compete with cheap South American supplies.

While there has never been an actual embargo by the United States on importations of Canadian cattle or beef, the tariff rates since 1922 have been so high in relation to prevailing prices as to restrict the movement. When the tariff rates were reduced by trade agreements, the number that could be sent to the United States at the lower rate was limited. Something approaching a free market in the United States has developed only since the middle of 1948, when the embargo on shipments of beef cattle to the United States was removed and the number that could be shipped in at the prevailing rate was raised to 800,000 head under the trade agreement between the United States and Mexico. With the Canadian dollar discount about offsetting the United States duty of 1½ cents a pound, a close approach to equality in prices in the two countries has been reached.1/

If there were assurance that the present trade situation between the two countries would continue, a substantial increase in cattle numbers in Canada would probably take place. This might well carry numbers above the 10.8 million peak reached in 1945 and eventually to a number approaching the 15 million head that has been given as an attainable level. With cattle prices at the levels of 1950, increased cattle production is fairly certain, even without any certainty that the present situation will continue. This increase may be limited to a number that would seem a maximum in relation to feed production from present sources, and the capital expenditures and production adjustments needed to expand feed supplies might not be undertaken.

Cattle numbers in the United States are now on the upswing of a new cycle and are expected to exceed materially the 1946 peak of 85.6 million head. A new peak of 92 to 94 million is thought to be a possibility within the next 3 or 4 years. At the rate of slaughter to numbers of the last 5 years, the yearly slaughter of cattle and calves would then be in the neighborhood of 37 million compared with about 30 million in 1949 and 1950, an increase of about 23 percent. If numbers of cattle in Canada increase to about 11 million during this period, the output (slaughter plus exports) at the 1945-49 rate would be about 4.5 million. This would give a combined slaughter of from 41 to 42 million cattle and calves, an increase of

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1/ On January 1, 1951, the duty on cattle weighing 200-700 pounds returned to 2½ cents following the ending of the Mexican Agreement by the United States.

7 to 8 million or more than 20 percent. If the population in the two countries should increase at the rate of the last 5 years, the combined population would be up from about 164 million to 177 million or 8.0 percent. The per capita supply of beef and veal would exceed the highest per capita consumption of the last 40 years. How this total supply of beef and veal would be distributed between the two countries under present trade relationships would be determined by relative demand in the two countries. If up to 800,000 head of cattle and calves were shipped from Canada to the United States and 3.7 million head slaughtered in Canada, the production of beef and veal in Canada would give a per capita supply about as large as the record consumption in 1946. Most of the supply might be consumed in Canada, but if prices in the United States were higher than in Canada enough would be exported to the United States to reduce the supply to quantities that Canadian consumers would take at the equilibrated price. The reaction of cattle producers in the United States to such large imports from Canada would be determined by conditions in the industry at that time. If price levels were high and cattle moved through the markets into slaughter channels and into feedlots freely and with little tendency toward sharp price fluctuations, there might be little opposition to the heavy in-movement. But if cattle prices were declining and cattle feeders were losing heavily or if there were a heavy liquidation of pasture and range cattle because of short feed supplies, much opposition would doubtless develop, and industry pressure would spread for a reimposition of quotas or for increased duties. If, however, these unfavorable conditions should not develop until after several years of high importations, these larger outside supplies might become generally accepted and producer opposition might be less pronounced than it was in 1920-22 and 1930-31.

So long as the sanitary embargo against imports of cattle from Mexico continues, there may be little producer opposition to the large imports from Canada, for it hardly seems likely that Canadian shipments will soon reach or exceed the combined imports from Canada and Mexico, which averaged about 650,000 in 1939-41.

If cattle numbers in Canada make a substantial increase during the next 4 years, the output in 1951 and 1952 will have to be reduced from the level of the last 3 years in order that breeding herds may be built up. This decrease may be either in slaughter in Canada or in livestock shipments to the United States, or in both. An important factor in determining where this decrease will take place will be the exchange ratio of the Canadian dollar to the United States dollar. If the Canadian dollar should go to parity, the advantage of American buyers would be reduced. Even if it should continue at the open market rate of about 95, reached during the last 3 months of 1950, following the ending of official devaluation in October, 1950, the advantage of American buyers in 1951 will be less than during most of 1950 when the established rate was about 91. This exchange factor may be of less importance with feeder cattle than with slaughter cattle, since location in relation to the region of strongest demand for feeder cattle in the United States is of some importance with such cattle. But the increase in the duty on most feeder cattle (200-700 pounds) from $1\frac{1}{2}$ to $2\frac{1}{2}$ cents, effective January 1, 1951, may tend to restrict the demand for feeders to be shipped south of the border. On the other hand, a largely expanded military demand for beef in the Unitd States, added to growing

civilian demand and a consequent disruption of the usual areas of distribution, may increase over-all demand in the United States relatively more than in Canada. This may tend to increase shipments of slaughter cattle and of dressed beef and reduce the proportion of total supplies available for Canadian consumption below the 1950 quantity. It seems probable, however, that total shipments of cattle and calves and of beef and veal to the United States in 1951 will be below 1949 or 1950.

CANADIAN LIVESTOCK INDUSTRY

The livestock industry in Canada, as in the United States, is closely associated with the utilization of feed from pasture and hay lands and from lands devoted to the production of feed grains. In Canada the principal feed grains are barley and oats, while in the United States the principal one is corn. In 1941, of the total of 174 million acres of land in farms, 92 million was improved land. Of this improved land, 8.5 million acres were in pasture, 11 million in hay, and 17.5 million in oats and barley, a total of 37 million. Of the 82 million acres of unimproved land in farms, 52 million acres were in "prairie or natural" pasture, making 89 million acres out of 174 million devoted to production of livestock feed. In addition, millions of acres of land "not in farms" were doubtless used or usable for pasture.

The land resources in Canada available for the production of livestock feed are large; but, although consumption by livestock is the only outlet for hay and pasture, no attempt has been made to increase livestock production to a level which would permit the maximum utilization of feed supplies. The volume of livestock production in Canada has been largely adjusted to Canadian demand and, with cyclical change peculiar to each class of livestock, the total has tended to expand as the population has increased. During the past 50 years most exports of live animals and/or meat have represented outlets for relatively small surplus quantities, rather than a production aimed at exploiting favorable foreign markets.

The tendency of Canadian agriculture during the course of the present century has been to exploit food grain possibilities in producing for export rather than the potentially large livestock-producing resources. Among the reasons for this are the long distances and high shipping costs from the potentially large livestock-producing areas in the Prairie Provinces to the Atlantic seaboard; the large supplies of cheap beef available to Europe and particularly to England from other sources, especially Argentina; the types of farmers who settled in this region; the smaller capital requirements for, and quicker returns from, grain farming; the relatively high cost of producing hogs to be sold in the export market in competition with the United States Corn Belt hogs; and high tariffs and more recently quota restrictions that tended to limit the market outlets for beef cattle and beef in the United States. From 1901 to 1950 the population of Canada increased from 5.3 million to 13.8 million; milk cow numbers increased from 2.4 million to 3.6 million, other cattle from 3.2 million to 5.3 million, all cattle from 5.6 million to 9.0 million; hogs from 2.4 million to 5.2 million; sheep increased from 2.5 million to 3.7 million in 1944 and then decreased to 2.0 million in 1950. During the same period wheat acreage increased from 4.2 million in 1901 to 27.5 million in 1949, reaching a peak of 28.7 million in 1940.

Livestock production in Canada was affected markedly by the changing demand for meats during the World War II and postwar periods. From a level in 1940 that was not greatly different from the average of the preceding 10 years the number of meat animals and the output of meats increased substantially to reach an all-time peak in 1944 and 1945. In animal units the number of all meat animals increased from 11.5 million in 1940 to 13.5 million in 1944, with cattle reaching a peak in 1945, hogs in 1943, and sheep in 1944. Total estimated meat production increased from 1,683 million pounds in 1940 to 2,619 million in 1944 and 2,441 million in 1945. The largest poundage increase was in pork, but the relative increases in beef and pork were about the same, around 75 percent. This increased production was encouraged in order to insure adequate supplies for the armed forces and to provide large quantities, especially of pork products, for Britain. Not only were these objectives met, but the civilian consumption of beef and pork in Canada reached record peaks, and the total annual per capita consumption of meats surpassed any previous figures.

Following these wartime peaks the total number of meat animals declined. By 1950 cattle numbers were back to about their prewar level; sheep numbers were at the lowest point in over 50 years; hog numbers were well below the 1943 peak but substantially above the average of the prewar decade and higher than in any year prior to 1940. Livestock slaughter and meat production declined, and estimated production in 1949 of 1,946 million pounds was down 26 percent from the 1944 peak. But, because of a sharp reduction in exports in 1949, total and per capita consumption in Canada were a little larger than in 1948, but substantially below the wartime peak.

Geography of Agriculture and Livestock Production

The most distinctive geographical feature of Canadian agriculture and livestock production is its location in a long, narrow strip of country extending westward over 3,000 miles from the Maritime Provinces on the Atlantic Ocean to British Columbia on the Pacific. Only in a limited area in western Alberta is this strip more than 500 miles wide, its average width is less than 200 miles. One-half the population of Canada lives within 100 miles of the United States boundary and 90 percent within 200 miles. 2/ The Canadian (Pre-Cambrian) Shield, a rocky, largely barren, sparsely-populated area that covers most of Ontario and Quebec, separates the agricultural lands of the Prairie Provinces from those of eastern Canada by distances of 750 to 1,000 miles, much of which distance lies north of Lakes Superio and Huron. Western Canada is itself separated into two sections by the northern extension of the Rocky Mountains. East of the Rocky Mountains lie the three Prairie Provinces, Manitoba, Saskatchewan, and Alberta, largely the northern continuation of the Great Plains area of the United States; west of Alberta and including most of the mountains is the Pacific Coast province of British Columbia.

Some 70 percent of the estimated 1950 population live in eastern Canada; 8 percent in British Columbia; and about 28 percent in the three Prairie Provinces. Since the Prairie Provinces are the large surplus producers of meat animals, as well as of grains, the surplus production of livestock, either in the form of live animals or meat, must be shipped long distances to reach the areas of large domestic consumption.

2/ S. C. Hudson, et al., Types of Farming in Canada, pp. 13-15.

Along this long strip of agricultural land in Canada there are considerable differences in the types of farming, as shown by the variety of crops and of the livestock and livestock products. These differences are associated with such contributing factors as topography, temperature, precipitation, soil, size of farms, market outlets, transportation, land tenure, historical development, and racial characteristics.

Eastern Canada

Eastern Canada is a region of small- to medium-sized farms, averaging about 120 acres, with only about one farm in nine larger than 200 acres. Livestock production is usually part of the general farming activity, which is characterized by relatively large acreage in pasture and hay, associated with feed grains, mostly oats and barley, with some acreage in corn for grain. In this region are located most of the large and medium-sized cities of Canada, and the percentage of urban to total population is relatively high. The agriculture of this region is devoted primarily to producing food for sale to the nonfarm population, and only small surpluses are available for export. Many farms are of a self-sufficient type that produce largely for home use with little for sale.

Cattle. The most important livestock enterprise is dairy farming. Milk cows make up over 50 percent of all cattle on farms, and receipts from the sale of milk, either for fluid consumption in towns and cities, or for manufacture in the sparsely-settled areas, is the most important source of farm income. The production of beef cattle, both in farm-raised herds of beef-type cattle and in feedlots where cattle are finished on concentrate feeds, is important in limited areas, mostly in the western and southern parts of the Niagara Penisula. These operations range in size from the feeding of small numbers of home- or locally-raised cattle to large-scale operations of a commercial type. The cattle fed in the larger operations are generally cattle shipped from the Prairie Provinces, and a considerable portion of the concentrates used are also shipped from the same area.

Hogs. Hog production in this area is found on a rather large proportion of the farms, but generally on a rather limited scale. In 1941 3/ some 67 percent of the farms enumerated had hogs, but the number of hogs averaged only about 10.4 and number of sows about 1.2 per farm with hogs. Ontario was the only province in eastern Canada where the average number of sows per farm exceed 1. The production of hogs in this area is rather closely associated with milk production, and skimmed milk, buttermilk, and whey are important hog feeds on many farms, particularly on the smaller farms where the acreage of feed grains is small and in areas where most of the land is in hay and pasture which are utilized largely for milk production. Barley is the principal feed grain used in raising and fattening hogs, but many farms with a small grain acreage depend on commercial hog feeds. Hogs are

3/ The 1941 census reports are the latest records showing details of numbers of farms, farms reporting different species and classes of livestock for all of Canada. When the 1951 census reports are issued they will doubtless show some changes from those of 1941, but probably will not greatly change the over-all picture.

almost exclusively bacon-type hogs, largely of Yorkshire breeding, and are marketed largely at live weights of 190 to 220 pounds.

Sheep. About 22 percent of the farms had sheep in 1941, but the average number per farm with sheep was small, only about 16 sheep of all kinds. The number of ewes averaged about 7 1/2 head, with most of the others being current year's lambs. Of the 92,330 farms reporting sheep, only 5,981 had more than 40 head of sheep and only 491 had over 100. About 78 percent of the farms having over 40 sheep and 93 percent having over 100 were in Ontario, although only a little more than 25 percent of the sheep farms in the area were in that province. The sheep in eastern Canada are almost exclusively of coarse-and medium-wool type. As indicated by the number of purebred animals on farms in 1941, the Down breeds make up by far the largest proportion, the Maritime Provinces being populated almost exclusively by Oxfords and Shropshires, and Ontario having in addition, large numbers of Suffolks and Southdowns. In Quebec the predominating breed was Leicester, especially in the localities where most of the wool is used in home industries in making blankets, rugs, and homespun cloth.

Prairie Provinces

Manitoba, Saskatchewan, and Alberta constitute the principal surplus agricultural producing area of Canada. In 1941 these provinces included about 40 percent of the farms in Canada and nearly 70 percent of the land in farms, 35 percent of the total farm population of Canada, and only 21 percent of the total population. It is a region of large farms and extensive farming. The over-all average size of farms was about 404 acres, varying from 290 in Manitoba to 434 in Alberta. Of the 52,800 farms in Canada over 640 acres in size, nearly 96 percent were in this region, and the average size of these farms was about 1,100 acres. Of the total acreage in Canada, 97 percent of the wheat, 90 percent of the barley, 67 percent of the oats, 98 percent of the flax, 20 percent of the improved pastures, 17 percent of cultivated hay, and 83 percent of unimproved pastures were in this region. In addition, about 1.5 million acres of prairie and marsh hay were cut in 1940.

Although the Prairie Provinces are the dominant producers of feed and food grains in Canada, they are of less importance in livestock production. They are also the least stable area in livestock production, and the sharp changes in numbers of the different classes for Canada as a whole are largely caused by changes in this region. This is indicated by the changing percentages of the Canadian total in this region at different periods. In 1941 these percentages were: 39 for all cattle, 31 for milk cows, 52 for hogs, and 44 for sheep; in 1945, when numbers of all classes except hogs were near their record size, the percentages were: cattle 45, milk cows 32, hogs 49, and sheep 49. In 1950, when numbers of all classes except cattle were below their 1941 level, the percentages were: cattle 37, milk cows 25, hogs 29, and sheep 38. To some extent this instability arises from the fact that potential feed resources are so large that sizable increases in livestock numbers can be made following favorable growing seasons if relative prices encourage such increases. Another factor is the competition between the production of cash grains, especially wheat, and livestock. Most livestock growers are also wheat growers; when income from wheat is high, these growers are less interested in livestock, and feed grain acreage is shifted to wheat. A third factor is the occurrence of years of low precipitation or actual drought that reduces feed crops and cuts down pasture and range feed and forces some liquidation of livestock.

Cattle. The average number of cattle per farm with cattle in the three provinces in 1941 was not greatly different from the average number in eastern Canada - about 14 head. The composition of the cattle numbers was quite different, however. In eastern Canada about 50 percent of all cattle in 1941 were milk cows, and a large percentage of the balance was young dairy cattle. In the three provinces only about one-third of the cattle were milk cows, and most of the other cattle were beef-type cattle. In 1950, with all cattle numbers about the same as in 1941, the percentage of milk cows had declined to 27. There was also a much larger dispersion of cattle numbers in the provinces. Of 234,000 farms with cattle, 2,300 had 75 head or more. In eastern Canada only 980 farms out of 346,000 had over 75 head.

Most of the cattle in the three provinces are raised under farm conditions, but some are produced under strictly ranching conditions. In areas of good natural grassland where the topography and soil are not suited for crop production are found medium- to large-scale cattle operations that are largely dependent upon grazing with supplemental feeding during a few months of the year. Some large-scale cattle raising operations are interspersed in areas where grain raising is the principal activity. These are either outfits that continued to raise cattle when most of the area was taken over by grain farmers or limited tracts that are not well suited for grain farming. These cattle ranches produce many of the good quality beef cattle raised in Canada and supply most of the good quality feeder cattle that are either fed locally or shipped to eastern Canada and the United States for feeding purposes. The census report of 1941 shows that 51 percent of all purebred beef cattle in Canada and nearly 60 percent of purebred Aberdeen Angus and Herefords were in the Prairie Provinces.

Hogs. Hog production in the Prairie Provinces is closely associated with barley production, with the areas of largest hog numbers coinciding largely with the areas of largest barley acreage. The utilization of milk by-products is of less importance in hog production here than in eastern Canada. In 1941 about 66 percent of farms had hogs and the average number per farm was about 16 head, with an average of 2 sows per farm with hogs. About 10 percent of all farms with hogs in 1941 had over 100 head and nearly 80 percent of these farms were in Alberta. The number of hogs in the Prairie Provinces expanded markedly during the late war years. Numbers increased from over 3 million on June 1, 1941, to over 6 million in 1943; then they dropped sharply to 1,771,000 in 1946, reached a low of 1,487,000 in 1948, and have continued at about this level for the last 3 years. The marked increase during the early 1940's was possible because of the large crops and accumulations of feed grains and wheat in the provinces; it was encouraged by the favorable relationship between established grain and hog prices, and by the guaranteed level of hog prices which was intended to bring about a large production of pork products for use of military forces and for shipment to Britain. After the accumulated grain surplus was largely reduced and production was cut down by unfavorable growing years, feed grain and wheat prices became relatively high in relation to hogs; the production of hogs then dropped off rapidly and has continued below the prewar volume.

Sheep. There are two types of sheep production in the Prairie Provinces - farm and range. In 1941 about 8 percent of the farms had sheep; about 20 percent of the sheep farms in Canada were in this region, and they had 44 percent of all Canadian sheep. Sheep numbers increased steadily from 1941 to 1944 and then started to decline. In 1946 there were about as many farms with sheep and about as many sheep as in 1941, but by 1950 the number was down nearly 40 percent. Farm flocks are of considerably larger average size than in eastern Canada and are distributed generally over the grain-growing areas. Range flocks are located largely in southwestern Saskatchewan and southeastern and southern Alberta and on the same kinds of lands as are cattle ranches in these areas. While some of these grazing lands, largely because of the character of the grass, are more suitable for cattle than for sheep, most of the sheep range is also suitable for cattle, and shifts between species on these ranges are readily made. With the sharp drop in range sheep numbers since 1945, which in numerous cases has involved the closing out of all sheep operations, cattle have taken over the ranges.

The farm flocks are mostly of the down breeds, with Hampshire and Suffolk outstanding among the purebred sheep reported. The range sheep are for the most part of fine-wool type of Rambouillet foundation. Of the total "western" wool graded in 1945, nearly half was fine and fine medium and about 40 percent was medium and low medium.

British Columbia

The third region of the long agricultural strip across Canada is the Pacific Coast Province, British Columbia. The Rocky Mountains make up a large part of the eastern part of the province and the Coast Range skirts the Pacific Ocean on the west. Between these two ranges is a vast plateau system cut by deep river valleys. These river valleys constitute most of the farming areas, except the low lands along the coast, and much of the farming in the valleys is under irrigation. The farms reported in 1941 averaged only about 153 acres, of which less than one-fourth was improved land; only about 40 percent of the farms were over 50 acres in size.

Cattle. Cattle production is of two general kinds. On the small irrigated farms dairy cattle and milk production make up most of the cattle operation. In the plateau region there is a considerable range-type cattle industry with relatively large land holdings and most of the acreage in hay and pasture. These cattle ranches actually involve the use of much more land than is reported as in farms, since most of the cattle are grazed during much of the year on open range or at a per head fee on controlled government or other lands. With the exception of Alberta, milk cows make up the smallest percentage of all cattle of any of the provinces. The average number of cattle per farm (or ranch) with cattle in 1941 was less than 18 head, and only 483 farms had over 75 head of cattle.

Hogs. Hog production in British Columbia is of minor importance. In 1941 less than one-third of the farms had hogs; the average per farm with hogs was about 9 head, with sows averaging 1.1 head. With a relatively large urban and industrial population, British Columbia is a deficit producer of hogs.

Sheep. About 1,400 farmers had sheep in 1941, the average number being 90 per farm with sheep. The proportion of sheep farms with 100 or more sheep was the largest for all provinces. In addition to small farm flocks, there were a number of range-type operations located mostly in the southern part of the central plateau. Here considerable use was made of government-controlled grazing land. Between 1941 and 1950 the estimated number of sheep declined about 25 percent.

Crops and Livestock in Canada and in the United States

The principal agricultural regions in Canada are largely northern projections of the eastern and western end of the Great American Plain that extends in the United States from the Appalachian Mountains in the east to the Rocky Mountains in the west. The central part of this plain, however, is cut off to the north by Lakes Superior and Huron and to the north of these lakes is the barren land of the Canadian Shield. Hence there is no area in Canada comparable to the northern extension of the heart of the United States Corn Belt, which includes much of the states of Minnesota, Wisconsin, and Michigan.

To the far east of the Canadian agricultural strip are the Maritime Provinces, which are in part a northern and eastern projection of an area that includes the northern New England states. British Columbia is largely a northern extension of the mountain, intermountain, and coastal areas of the state of Washington.

The geographical relationship and the close financial and commercial ties between Canada and the United States would suggest a similarity between the crop and livestock patterns of the two countries, especially between the Canadian provinces and the adjoining states in the United States. To determine the degree of similarity between the two countries and between Canadian provinces and adjoining or nearby states, comparisons were made of livestock numbers and of acreages and yields of the principal crops over a 40-year period. (See Figures 2-7 and also Appendix tables.)

Comparisons in Livestock Trends

Cattle. Figure 2 shows the changes in cattle numbers from 1910 to 1950. The 40-year period covers three complete cycles for each country. At the beginning of the period covered, numbers of all cattle in Canada were at the bottom of the preceding cycle, but in the United States the bottom of that cycle was not reached until 2 years later - 1912. The index in the two countries (1910-29 = 100) at this low point was practically the same, 86 in Canada and 87 in the United States. On the upswing of this cycle the top was reached in the United States a year earlier than in Canada, and the Peak index number was a little higher in the United States. The low point of this cycle was reached in 1928 in both countries, but the cyclical decline was considerably less in Canada than in the United States - 112 to 98 and 115 to 90 respectively. The peak of the second cycle was reached in 1934 in both countries. The relative increase in the United States was greater than in Canada, but the peak was not quite so high - 119 in Canada and 117 in the United States. The downswings of this cycle were considerably different in timing and in magnitude, since 1934 was the year of the great drought

in the United States. As a drought relief measure the Government bought some 8 million head of cattle and calves, most of which were slaughtered, and commercial cattle and calf slaughter was also relatively heavy; this tended to cut short the length of the downswing, to only 4 years, and over half the total decline was in 1934. In Canada where there was no such forced reduction in 1934, the total downswing was more moderate than in the United States, and the low point was reached a year later.

During the upward phase of the third cycle the index rose 32 points in each country. In Canada the movement lasted 5 years (1940-45) and in the United States 7 years (1939-45). The 3-year decline in the United States from 1946 to 1948 was absolutely and relatively the smallest for any of the three cycles. Numbers have been increasing for the past 2 years, and another substantial increase is indicated for 1951. In Canada numbers declined for 5 years (1946-50) and little increase in 1951 seems probable.

Another rather striking similarity between cattle production in Canada and in the United States is the tendency over the last 5 years for output to increase in relation to numbers on farms. One comparison is the relationship between estimated numbers of cattle on farms and the estimated total slaughter of cattle and calves during the year. Since a part of the output of Canada is in the form of exports of live animals, these exports should be added to the slaughter. Another relationship can also be shown for the United States which is based upon number of head at the beginning of the year and the estimated production of cattle and calves in live weight during the year. This relationship can be shown in pounds of production per head on farms, January 1.

In Canada there are two estimates of cattle numbers on farms for each year - the long-time series as of June 1 and the other, since 1931, as of December 1. In order that the comparisons between the two countries be based on as nearly comparable data as possible, it seems desirable to use the estimated December 1 number in Canada in relation to output of the following year. In nearly all years, June 1 numbers will be higher than December 1 numbers, so that the percentage of slaughter to inventory numbers will be lower if June figures are used. Comparable data of output in Canada are only available since 1935, since these output figures were revised in 1942 for the years back to 1935, but no revisions are shown for earlier years. However, rough estimates for the years 1930-34 were made by increasing the numbers of cattle and calves "slaughtered and sold off of farms" by a percentage derived from a comparison of the original and revised figures for 1935-37.

As is shown in Table 1, the percentages of the number slaughtered to numbers on hand at the beginning of the year (previous December in Canada) were quite low from 1930 to 1935, particularly in Canada. It would seem that the rough estimate of output for Canada during those years was too low compared both with later years and with the United States figures for these years. The 1930-35 period was that of the great depression and also one when cattle numbers were increasing steadily in both countries. In the later 30's, with cattle numbers decreasing, the percentages for both countries are in quite close agreement. For the years 1940-43 there is also fair agreement at percentages not greatly different from 1937-39. In 1944 and later years the percentages are considerably higher than for any period shown.

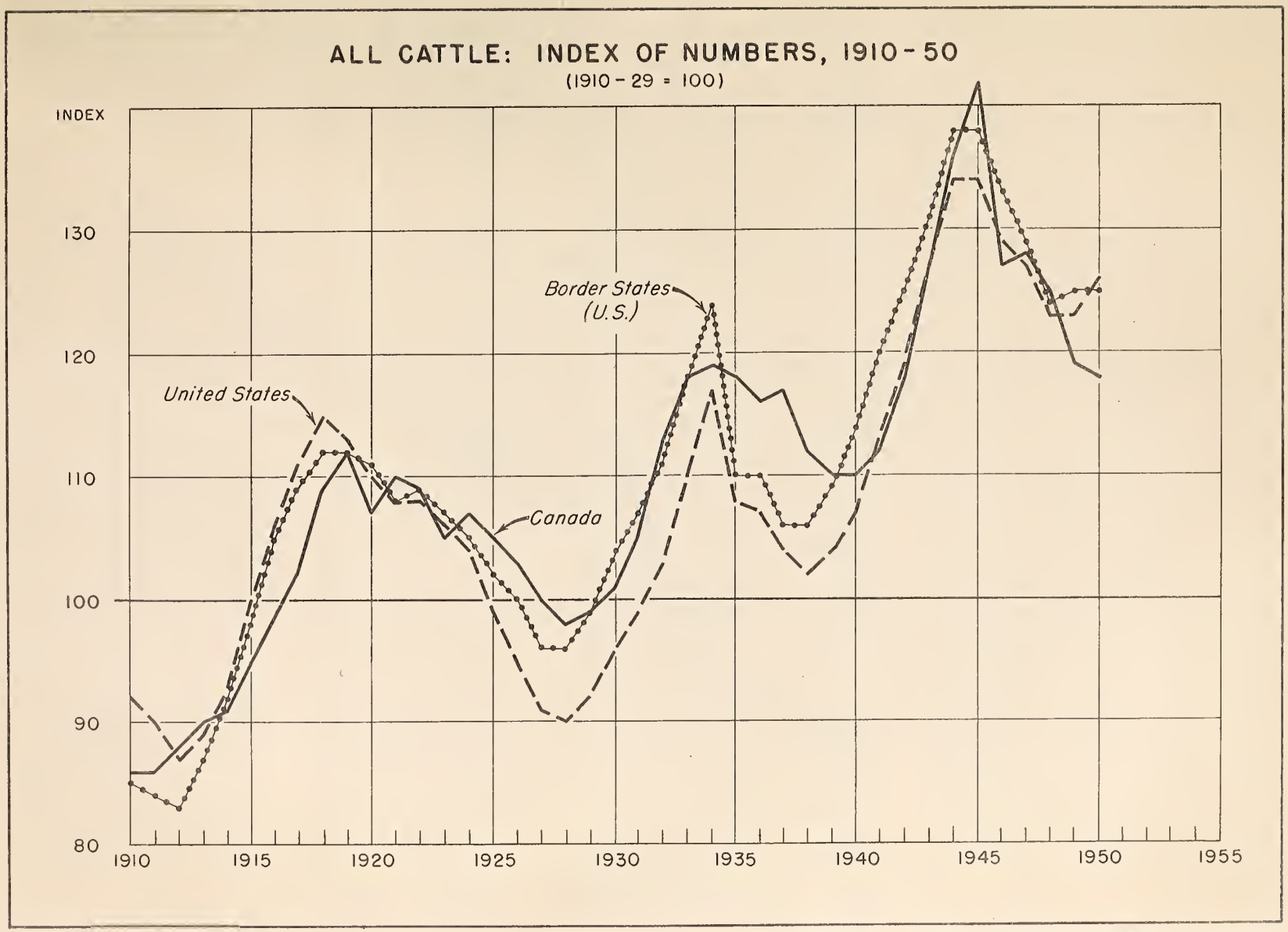

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Figure 2.

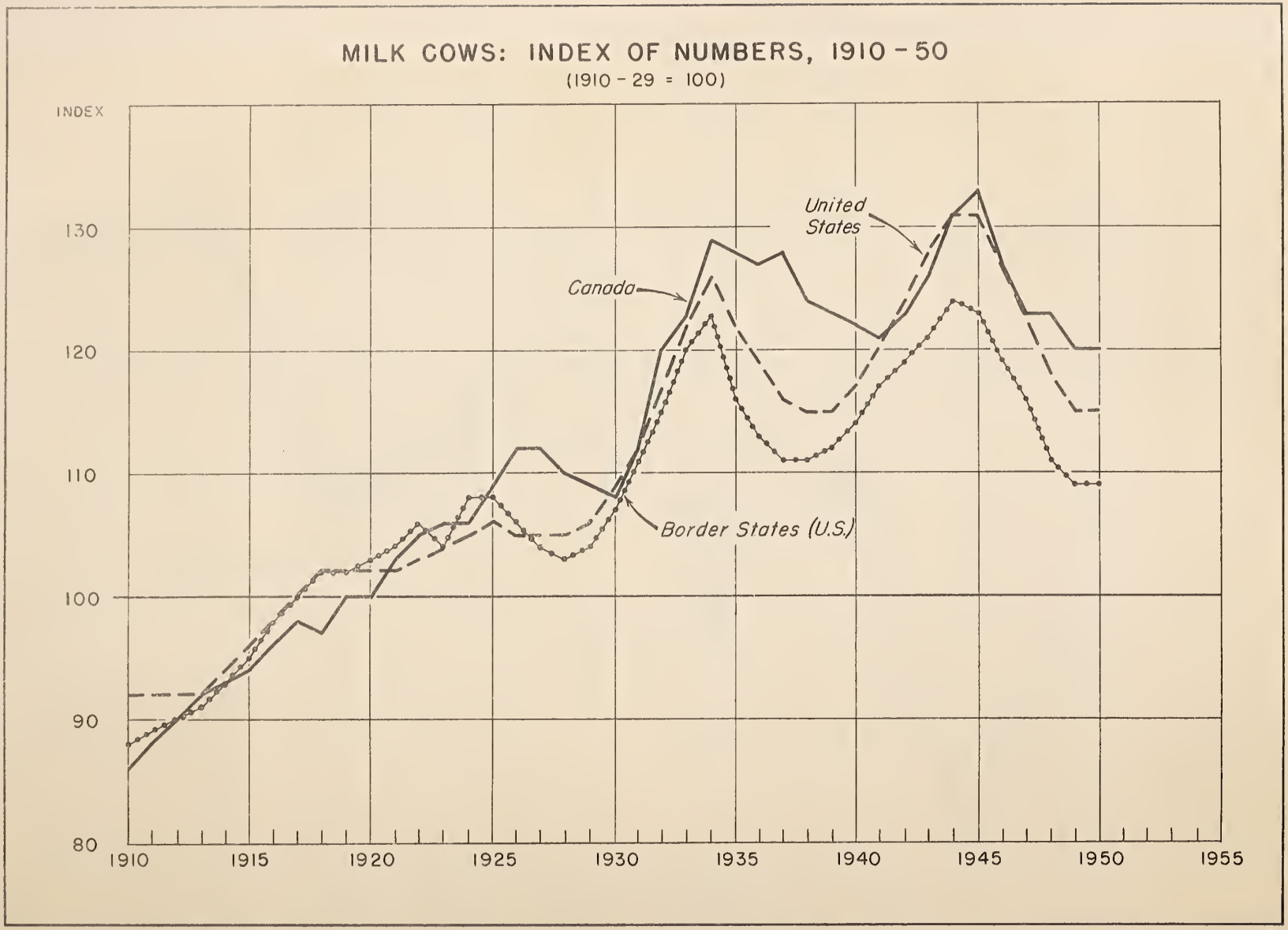

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Figure 3.

Table 1 also shows the total estimated production (live weight) of cattle and calves in the United States and the pounds produced per head on January 1 (obtained by dividing the estimated production each year by the estimated number on farms at the beginning of the same year). While this series shows that output in relation to January 1 numbers was substantially larger during the 5 years, 1945-49, than in the decade of the 30's, it was not greatly different from the 5 years, 1940-44. Comparable estimates of live weight production are not available in Canada.

A number of explanations might be given for this indicated increased output per 100 head on farms at the beginning of the year, such in increased percentage of calf crops, lower death rate, larger percentages of cows in herds, and marketing at earlier ages. It might be that the estimates of numbers or of output are not comparable over the period. No attempt is made here to examine these possible reasons. The purpose of these comparisons is to give another evidence of the similarity of the cattle industry in Canada and the United States.

Milk cows. The changes in the number of milk cows in Canada have been even closer to the changes in the United States than in the case of all cattle. (Figure 3) The periods of least agreement were in the late 20's and late 30's. For 4 years in the 20's the directions of changes were opposite, during the 30's the number in Canada did not drop as sharply as in the United States, in the drought period 1934-36, but numbers continued slightly downward for 2 years after they started upward in the United States. The percentage of milk cows to total cattle during the present century has been higher in Canada than in the United States. This arises from the fact that cattle numbers in eastern Canada have been relatively higher in relation to all cattle in Canada than have numbers in the eastern part of the United States (area east of the Mississippi River) to all cattle in the United States. The spread between the percentages in the two countries, howeve, has been quite stable, ranging from about 5 to about 7 percentage points. In both countries the percentages decreased in periods when all cattle numbers were increasing and increased when all cattle were decreasing. In both countries most of the cyclical changes in all cattle numbers resulted from changes in cattle other than milk cows. And in both countries some of the changes in milk cows can be ascribed to shifting the use of dual-purpose cows from or to milk production.

The number of milk cows in Canada, the United States, and the United States border states are shown in Table 6, and these totals are broken down by provinces and adjoining states in Table 7.

In the case of all cattle there is somewhat closer agreement between Canada and the border states than between Canada and the United States. In 25 of the 41 years for which comparisons are made, the index for the border states total is nearer that for Canada than is the index for the United States total. Trends in individual provinces have tended to be similar to those in nearby or adjoining states, but there are materially wider spreads in comparable indexes than in the indexes for the total. The notable exception to this general tendency is that cattle numbers in Quebec have increased over the 40-year period, with cyclical changes, while cattle numbers in the northern New England states have declined.

On the other hand, the indexes showing changes in milk cow numbers in in Canada are in much closer agreement with those for the United States total than with the indexes for the border states total. In only 9 of the 41 years is the Canadian index closer to that for the border states than for the United States total, and these 9 years are all in the 20 years between 1910 and 1929. As with all cattle, the spread between the indexes of milk cows in Quebec and northern New England is the widest, with numbers tending sharply upward in Quebec and moderately downward in northern New England.

Hogs. Because of the relatively short length of the hog cycle and because of the wide difference between the physical factors that affect changes in hog numbers in Canada and the United States, very close agreement in the yearly changes in numbers in the two countries could hardly be expected. However, over the 40-year period the cyclical movements have been in rather close agreement as to time and duration, but have differed considerably in degree of changes. Figure 4 shows the indexes of hog numbers in the two countries from 1910 to 1950. The basic figures for Canada are the estimates of number as of June 1 while those for the United States are as of January 1. In the case of hogs, this difference in dates reduces somewhat the comparability of numbers. The figures for the period of years for which December 1 estimates are available in Canada, however, do not change greatly the time or extent of the cyclical changes.

The period for which the disparity in direction of movements is most noticeable was from 1934 to 1940. The 1934 drought brought a much greater reduction in hog numbers in the United States, and the pattern of recovery from that low level during the next 5 years was different in the two countries. Numbers in both countries advanced to all-time highs during the war years and then declined sharply. At the new levels reached in 1948, numbers in the United States were somewhat below those of the base period, but in Canada were substantially above it.

During the period from 1915 to 1934 the changes in numbers of hogs in Canada were in closer agreement with those in the border states than with the changes in the United States total. The actual numbers in the two areas were not greatly different in 1910, but the number in the border states increased markedly in the next 5 years while the number in Canada changed but little. In 1930 the total of the border states was over 50 percent larger than in Canada, and the 20-year (1910-29) base period average was 42 percent larger. The 1932-36 drought period affected hog production in the border states even more than in the United States as a whole, while in Canada numbers continued above the 1910-29 average. From the low point of the drought years the numbers in the border states advanced relatively more than the United States total but much less than in Canada, and the post-war decline in the border states was about the same as that of the United States total. During some of the war years the number in Canada exceeded the border states total and during the last two years was almost equal to it.

A comparison of changes by provinces and adjoining states indicates rather marked divergencies in trends. In the Maritime Provinces, numbers have been fairly well maintained, and in Quebec the trend has been sharply upwards. In northern New England, on the other hand, the trend has been

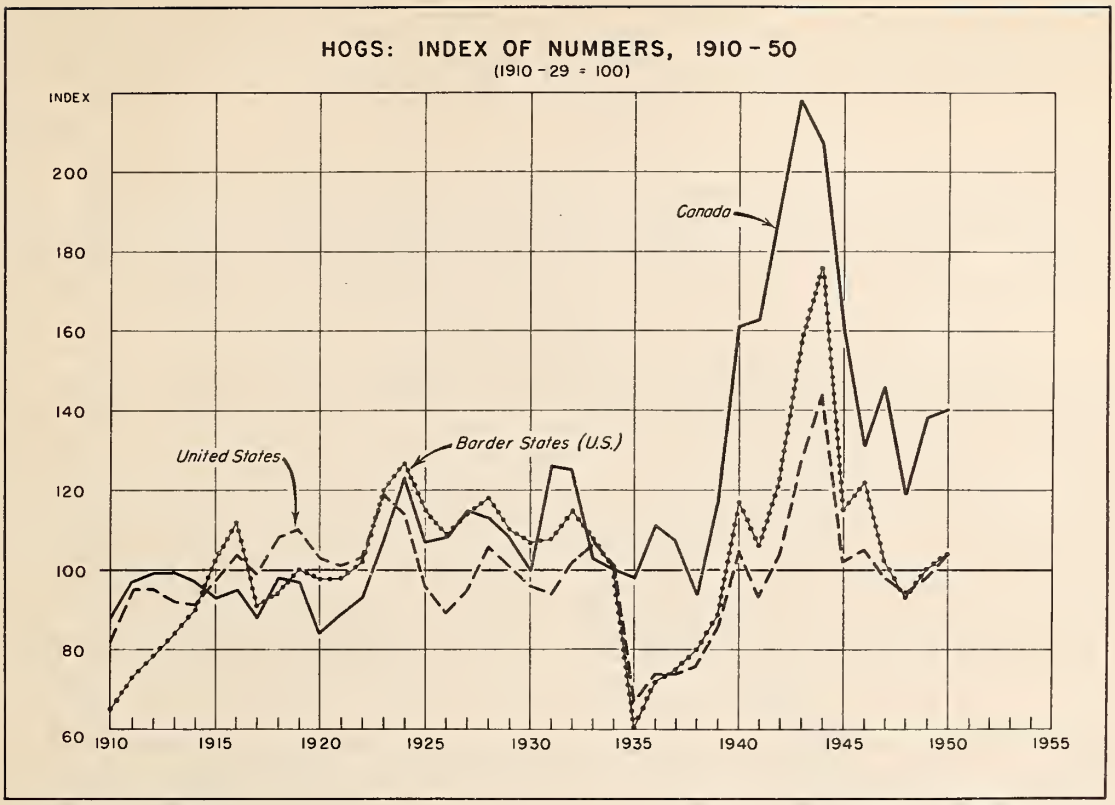

Figure 4.

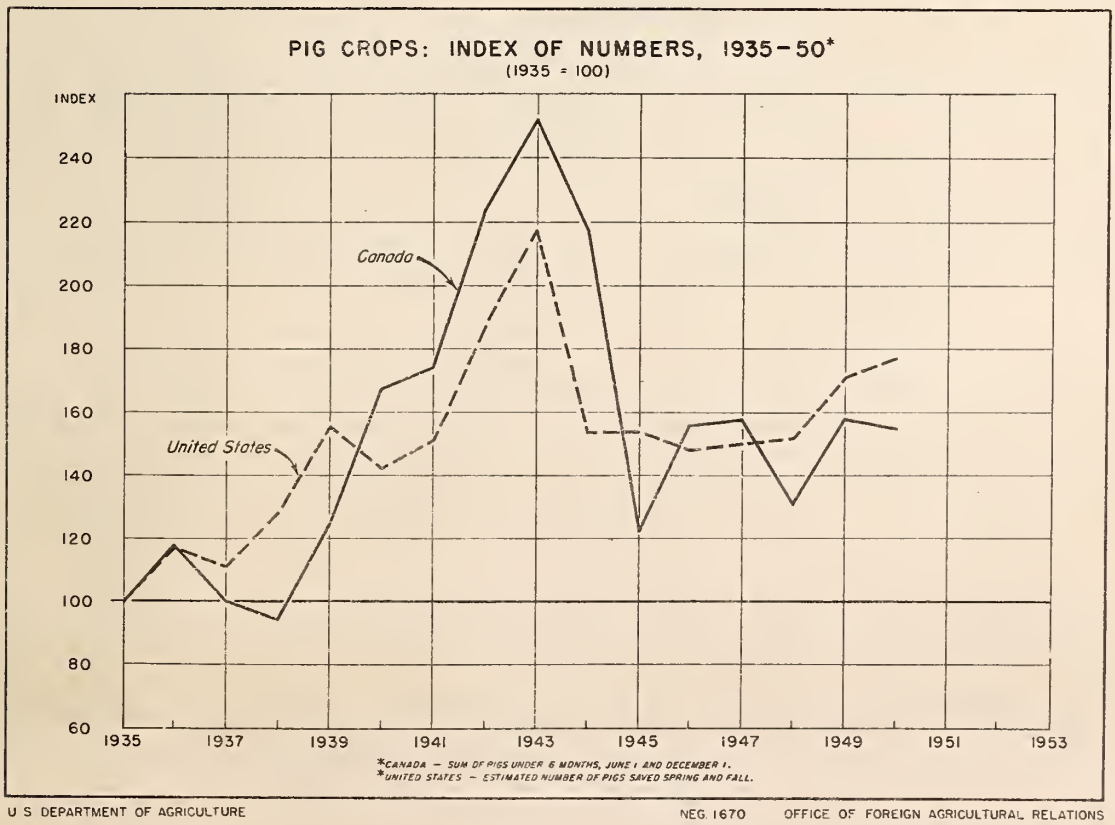

Figure 5.

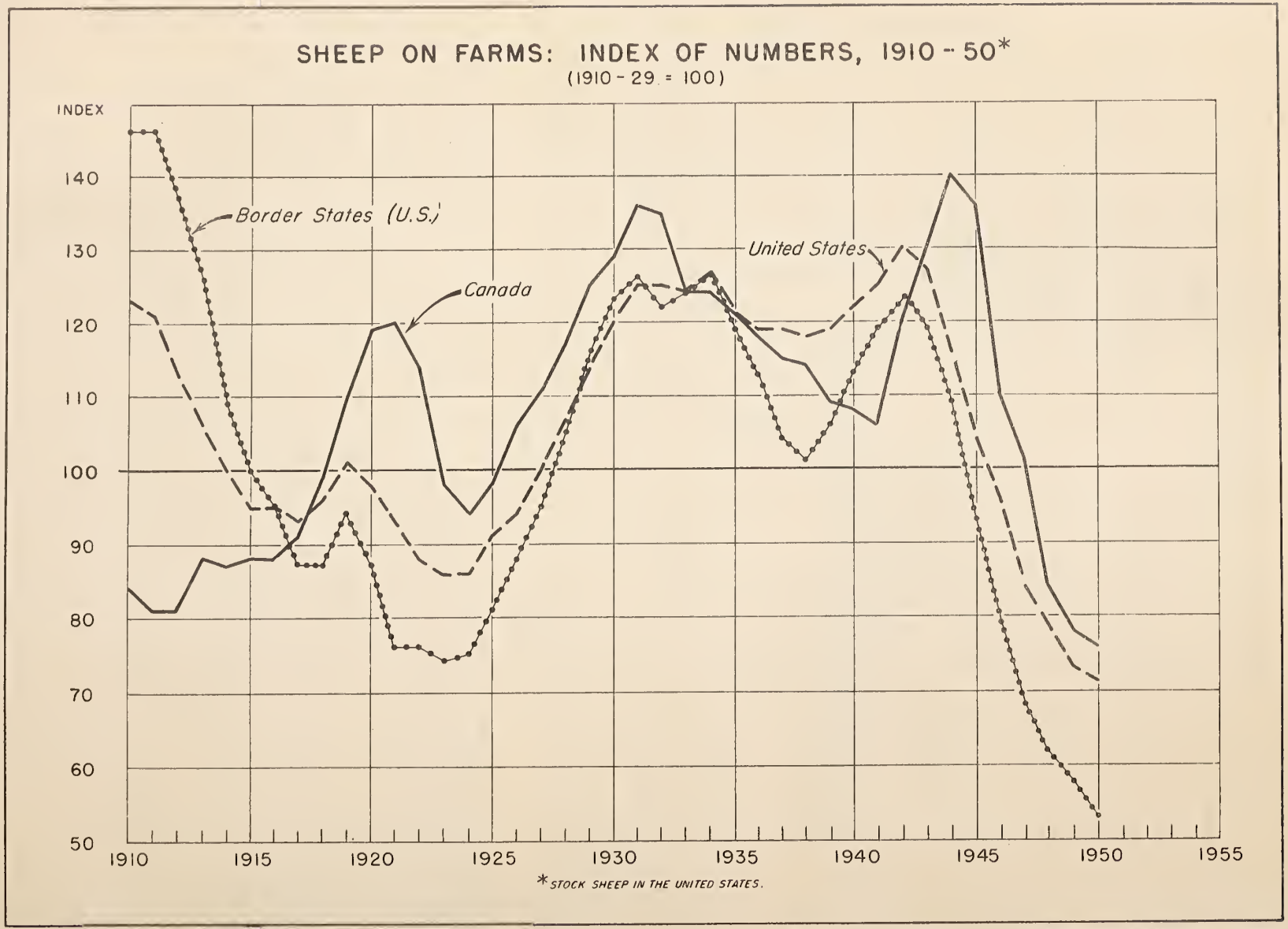

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Figure 6.

sharply downward. The number of hogs in Ontario and in New York and Michigan averaged about the same for the base period (1910-29), but since 1930 the New York-Michigan total has only reached the base period average in one year, while the Ontario total has been above the base number every year since 1939 and for the last 5 years has averaged over 35 percent above.

The inclusion of the hog numbers in Minnesota in the border state total tends to distort the comparisons with numbers in Canada, especially with Manitoba, since the southern half of Minnesota is essentially a Corn Belt area where hog production has increased markedly over the last 40 years.

In the 1910-29 base period, numbers in Minnesota made up nearly 50 percent of the border states total and were over 10 times larger than in Manitoba. During the 1910-29 period, hog numbers increased relatively faster in all of the adjoining border states than they did in the Prairie Provinces. During the drought years of the 1930's, numbers in the Prairie Provinces did not decline as sharply as in the adjoining border states, and in the war years they advanced relatively much more, with Alberta and Saskatchewan becoming the two leading hog-producing provinces. As regards actual numbers and relative changes in numbers, Saskatchewan and North Dakota are more comparable than are any other provinces and adjoining states.

A comparison of yearly pig crops in the two countries for 1935 to 1950 shows the same general relationship in yearly changes as does that of inventory numbers (Figure 5.)

Sheep. From about 1915 to 1950 the direction of changes in sheep numbers in Canada and the United States was in rather close agreement (Figure 6). From 1910 to 1915 the changes were in opposite directions. This period was one of liquidation of sheep numbers in both the native and western sheep states in the United States caused by conditions in the United States, some of which were not operative in Canada. Sheep numbers in the United States increased from 1905 to a cyclical peak in 1909 at the highest point in over 25 years. Several poor feed years and low prices for lambs, and later the repeal of the duty on wool, the grazing homestead act, and the advancing cattle prices resulted in sharp decreases in numbers until about 1915. In Canada, sheep numbers declined from 1906 to 1911, increased moderately from 1911 to about 1916, and then rose rapidly.

The swings in sheep numbers in the border states have been wider than those in Canada or in the United States total. Since about 1920, the change from low points to high points in the numbers movement has been in closer agreement between Canada and the border states than between Canada and the United States total; in the timing of changes the border states and the United States total have been more similar.

Relationships between the provinces and the adjoining states have been quite varied. In the Maritimes and Quebec numbers did not change greatly between 1910 and 1929, while in northern New England numbers declined steadily. From 1930 to 1950 the trend in the Maritimes and Quebec has been almost steadily downward, and in northern New England the downward movement has continued until very few sheep are left.

In Ontario the general trend was upward from 1910 to 1929 and steadily downward after about 1932 with a decline of 50 percent by 1950. In New York and Michigan, however, numbers declined sharply from 1910 to 1924; they made some recovery until the early 1930's, then declined gradually until 1943 and sharply to 1950, with 1950 numbers only about one-third of 1930. The directions of change in the different Prairie Provinces and in the adjoining states have tended to agree, but there have been material differences in long-time trends. The trend in each of the provinces was generally upward from 1910 to 1943 and then sharply downward. The trends in Minnesota and North Dakota followed this same pattern, but in Montant the trend over the whole period from 1910 to 1950 was sharply downward, with cyclical upswings. Because of the relative importance of the Montana numbers in the total of the border states - 50 percent or more in most years - the trend in the total of these states has been largely controlled by the movement in Montana. However, as stated, the general trend in the eastern border states was also downward. Minnesota and North Dakota were the only border states with more sheep in 1950 than in 1910. All of the western Canadian provinces had more sheep in 1950 than in 1910, and all of the eastern provinces had fewer.

Horses. The direction of movement of horse numbers in Canada and the United States over the past 40 years has been similar, but the degree of decline since numbers reached a peak is quite different (Figure 7). The peak was reached in 1915 (1917 if mules are included) in the United States; and in 1921 in Canada, and the subsequent decline was much slower than in the United States. Since the peak of mule numbers in the United States was reached later (1925) than that of horses, the downward trend of the combined numbers is somewhat different from that of horses alone. By 1950 the number of horses was down to 28 percent of the 20-year average and the number of horses and mules to 31 percent. In Canada the 1950 number was still 53 percent of the average. The greater part of the decrease in Canada was in Ontario and the Prairie Provinces where farms and crop acreages per farm are large enough to make mechanization feasible. In Quebec and the Maritime Provinces, horses are still the principal source of power for farm work.

Comparisons in Terms of Animal Units

Since the numbers of different species of livestock change both in direction and in degree from year to year a conversion of the number of each to a common denominator, called an animal unit, and the summation of these units gives an over-all livestock total.

The Prairie Provinces developed later than the western part of the United States, and it was not until about 1915 that over-all livestock numbers in Canada reached a level approaching the 10-year (1920-29) average used in computing the indexes showing changes from year to year. Hence for the years shown in Table 19 and Figure 8 the indexes in Canada before 1915 were substantially lower than those for the United States, although the direction of change was similar.

The number of animal units in 1950 was significantly lower than in the base period (1920-29) and by about the same relative degree in both countries. From 1921 to 1934 the level of the indexes and the changes from year to year

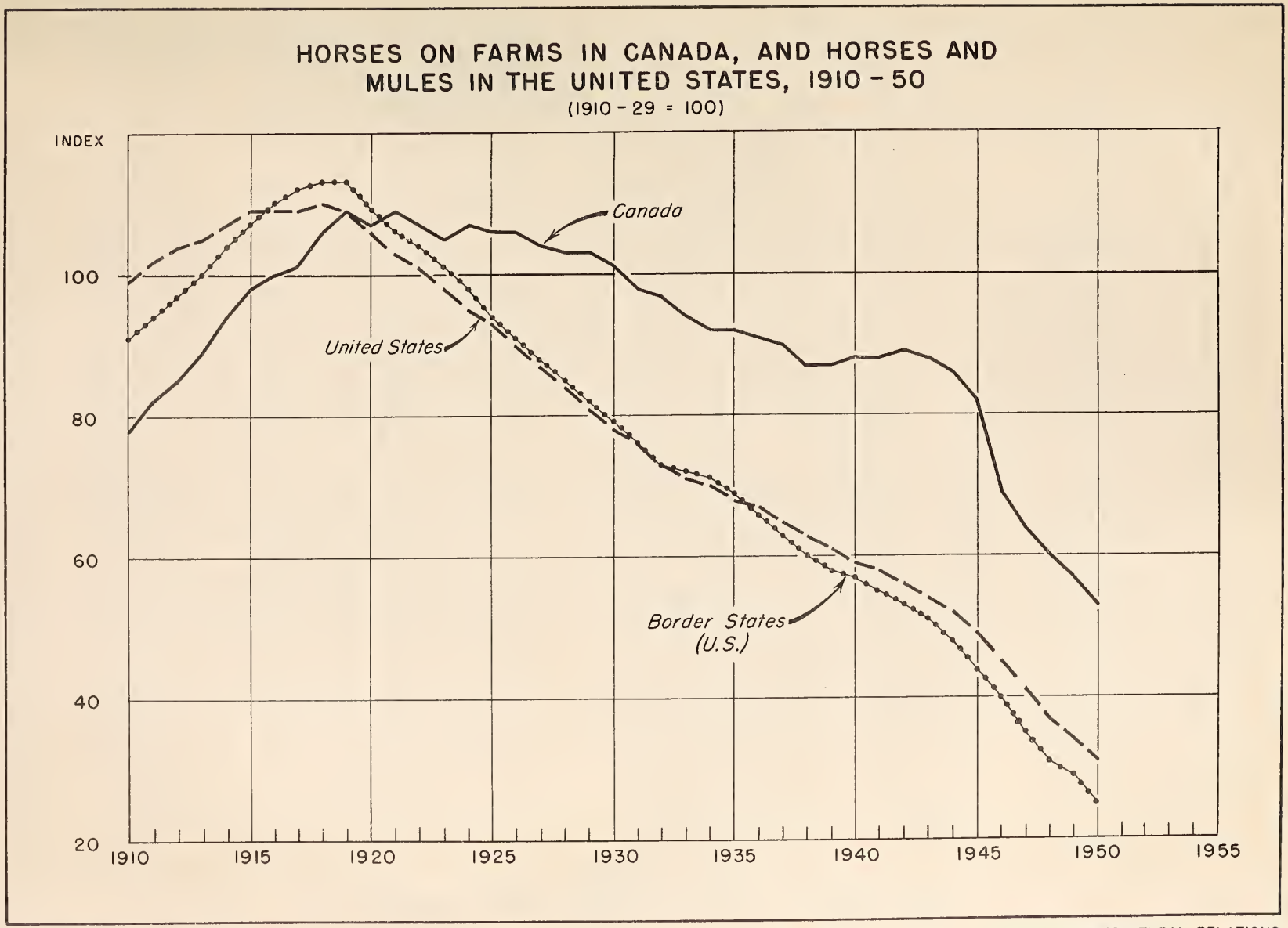

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Figure 7.

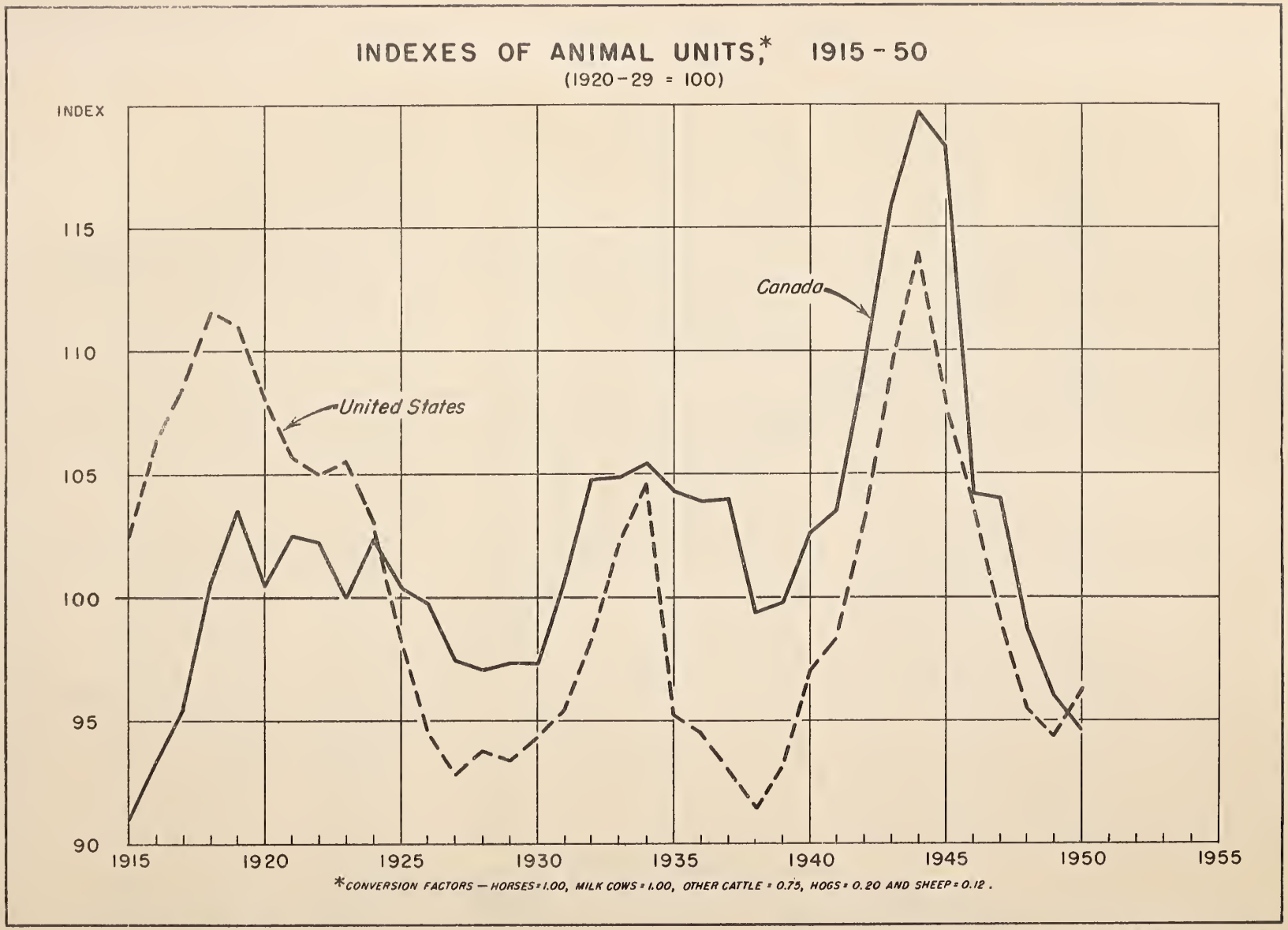

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Figure 8.

were quite similar. From 1935 to 1939, however, the indexes were wide apart; during the bad drought years of this period numbers of all species declined much more sharply in the United States than in Canada, and total animal units reached the lowest level of the present century. From 1939 to 1944 units increased in both countries to all-time peaks. The increases in points were about the same, but the index was higher in Canada. From 1944 to 1949 the indexes declined rather sharply in both countries and the spread between them was largely eliminated since the decline in Canada was relatively the larger. Numbers in Canada continued to decline in 1950 to the lowest point in over 30 years; in the United States numbers rose slightly to somewhat above the low level of the drought period. From 1920 to 1950 the spread of the index in Canada from low to high was about 25 points, and in the United States it was nearly 23 points.

Crops

The similarity between agriculture in Canada and in the border states of the United States is also shown by comparisons of the acreages and yields of the principal crops - wheat, oats, barley, flax, and hay. (See Tables 26-34.)

Wheat. Most of the wheat acreage is in the Prairie Provinces and in the border states adjoining these provinces. Because of its very minor importance the acreage in the Maritime Provinces, Quebec, and northern New England is not included. Canadian wheat acreage, which was about one-third that of the border states in 1900, increased to about 60 percent by 1910, to over 90 percent by 1920, and to about 130 percent by 1929. The 1910 average acreage was about the same for the two areas. Over the 40-year period (1910-49), the index of acreage (1910-29 average base) ranged from 50 to 161 in Canada and from 83 to 118 in the border states. Acreage was greatest in Canada in 1940 and in the border states in 1949.

Yields have declined in Canada during the last 20 years and increased in the border states. For the 20 years, 1910-29, the average yield in Canada was 17.3 bushels, about 4 bushels larger than in the border states. From 1920 to 1950, however, the yield in Canada exceeded the 1910-29 average, in only 5 years, while in the border states the yield exceeded the 1910-29 average in 13 years. Weather and other conditions affecting yields are generally similar over the whole area, and in many instances the years of relatively lowest yield have been the same in each area (1919, 1929, 1933, 1936), as have the years of relatively highest yield (1912, 1915, 1927, 1928, 1942, and 1944). In some years, however, yields have been low in one area and near average in the other (1916, 1918, 1924, 1937); in others, they have been high in one and average or below in the other (1911, 1923, 1925, 1930, 1941, and 1942-48).

Over most of the combined area the soil and moisture conditions affecting crop production are quite similar on both sides of the border. The exception is the British Columbia-Washington area. Here there is no wheat acreage on the Canadian side comparable in extent and productivity with the Palouse area in Washington. The tables for different provinces and adjoining states show much the same relationship as does the over-all table.

Oats. In 1910 the acreage of oats in Canada was about the same as that of the border states. During the next 10 years it almost doubled to reach an all-time peak in 1921, then declined to about the 20-year (1910-29)

average where it remained from 1925 until the war years. The considerable expansion during the war was followed by a decline to the lowest level in 35 years. In the border states the trend was gradually upward from 1910 to about 1925 and then downward to below the 1910-29 average. It was below that average in most years until 1944 and above it in most years since. The trend of acreage in eastern Canada and in the eastern border states was gradually downward from a peak reached during or shortly after World War I until about 1947, with an upward tendency during the last 3 years. In western Canada and the western border states the acreage increased fairly rapidly from 1910 until the early 1920's and then declined to about the average of the 1910-29 period. Since 1930 the acreage in the Prairie Provinces has been above the 1910-29 average in most years; it reached record levels in the war period from 1941 to 1944 and then declined. The oat acreage in the western border states was cut sharply during the drought years of the 1930's, then recovered to the pre-drought level by 1940, expanded rapidly during the war period to exceed the previous peak, and has continued on a high level since.

As was the case with wheat, the tendency of yields of oats has been downward in Canada during the last 20 years and upward in the border states. During this period the average yield in Canada exceeded the 1910-29 average yield in only 3 years; in the border states the yield was in excess of the 1910-29 average in 15 years and below it only in the drought period of the 1930's. The tendency toward lower yields is most in evidence in the Prairie Provinces.

Barley. Barley is the principal feed grain used in Canada for fattening cattle and hogs and is important in other livestock and poultry feeds. It is of especial importance in the Prairie Provinces where the volume of cattle feeding and hog production is closely associated with the supply of barley. Barley is much less important as a livestock feed in the border states than in Canada. Some of these states produce relatively large quantities of corn, and corn for feeding is readily available for inshipment. The trend of barley acreage, however, has been much the same in the border states as in Canada. Between 1910 and 1929 the acreage increased markedly in both regions, but at a much faster rate in Canada than in the border states. In 1910 the total acreage in Canada was about 42 percent of that of the border states, but by 1929 it was larger and has remained larger in most years since then. From 1910 to 1929 the acreage in Canada increased almost without interruption and in 1929 was almost 5 times as large as in 1910. In the border states the acreage expanded from 1910 through the World War I period and then declined rather sharply to a level below that of 1910 where it continued until about 1924. From 1924 to 1929 a sharp increase, especially large in both 1928 and 1929, carried acreage to an all-time peak. An even larger increase took place in Canada in these 2 years. A sharp drop in acreage occurred in both regions in 1931. In Canada, expansion got under way again in 1936; acreage continued at this new level until 1941, when another sharp increase occurred which reached a peak in 1943, and then declined to a level substantially higher than any in the past. The drought period of the 1930's reduced acreage in the border states almost to the level of the postwar period, except that in 1935 a near-record acreage was sown in order to provide early feed following the 1934 drought. After 1936 a marked expansion took place, and acreage in 1942 was near that of the late 1920's. Since 1943 acreage has fluctuated rather sharply from year to year

at a relatively high level, but much below the level maintained in Canada.

The barley acreage in the Maritimes and Quebec is a small part of the total but relatively much larger than the New England proportion of the border state total. The trend of acreage has been generally upward in these provinces, but downward in the New England states. In 1910, Ontario had the largest barley acreage of all provinces, and nearly 40 percent of the total for Canada, but by 1929 this percentage dropped to about 10 as acreage had expanded rapidly in the Prairie Provinces. From 1910 to 1940 the acreage fluctuated around 1910-29 average, but dropped off during the war years, and has continued at about one-half of this average. The acreage in Michigan and New York expanded during the 1910-29 period, but relatively large changes took place over short periods. Since 1930 the trend has been almost constantly downward.

The acreage of barley in Manitoba has been larger relative to the total for the Prairie Provinces than in the case of oats or wheat. Until 1929 the acreage exceeded that of any other province and the 1910-29 average was nearly 40 percent of the total acreage of Canada. From 1941 to 1948 Saskatchewan had the largest barley acreage of all provinces, but in 1949 and 1950 Alberta held first place.

The expansion of barley acreage in Alberta was much slower than in the other two Prairie Provinces. In Manitoba the million-acre mark was reached in 1918, in Saskatchewan in 1928, and in Alberta in 1938. During the war years the acreage expanded rapidly, exceeding 2 million in Manitoba and Alberta and 3 million in Saskatchewan. After the war, acreage declined in Manitoba and Saskatchewan but continued to increase in Alberta. In the United States, the acreage in Minnesota and North Dakota almost doubled between 1910 and 1929 with cyclical changes quite similar to those in the Prairie Provinces. From the peak reached in 1929 the acreage declined sharply during the drought period of the 1930's then expanded during the war years and declined in the postwar period to about the 1910-29 average. The growth of barley acreage in Montana was similar to that in Alberta until 1930, but acreage declined during the drought period. The marked increase in acreage during the war years carried over into the postwar period. The barley acreage in British Columbia, while expanding, is still insignificant in the Canadian total.

Average yields of barley in Canada and in the border states reflect the general similarity of weather conditions as a factor in yields in the two areas. The years of high or low yields are usually the same for the areas as a whole, and this agreement is usually even more pronounced as between provinces and adjoining states. The tendency for yields to decrease in Canada and to increase in the border states is evident with barley as with other grains. In the 21 years from 1930 to 1950 the average yield in Canada equaled or exceeded the 1910-29 average in only 4 years. In the border states the 20-year average has been equaled or exceeded in 15 years. In only 1 year in the 1910-29 period did the yield of the border states exceed that of Canada, but since 1930 this has occurred in 9 years.

Flaxseed: The three Prairie Provinces are the only ones in Canada where flaxseed is an important crop. The adjoining border states have usually been the principal flaxseed-growing area in the United States; but during recent years considerable expansion has taken place in other states, particularly in Texas and California. Because flaxseed is exclusively a cash crop and because of other factors that tend to affect changes in acreages, the land in flax fluctuates more widely from year to year and cyclically than any other major crop. In the 1910-29 period the trends of acreage in the Prairie Provinces and in the adjoining states showed little similarity; periods of large acreages in one area usually corresponded with periods of small acreages in the other. After 1930 acreage changes were in much closer agreement until the last 2 years when acreages dropped sharply in Canada but continued at the high wartime level in the border states.

The relationship of yields in the two areas is much closer than that of acreage changes, since weather conditions affecting yields tend to be similar. The trend of yields since 1930, however, has been somewhat downward in Canada and generally upward in the border states.

Hay: Because of the nature of the crop, the acreage in hay fluctuates little from year to year once most of the agricultural land of an area has been brought into use. From 1910 to 1929, when the farm acreage in Canada was still expanding, hay acreage increased. In the border states, the expansion of hay acreage was fairly complete by 1910; since then, yearly fluctation and cyclical movements have been relatively small.

Unfortunately, available records do not make possible a true comparison of hay acreages and yields between the Canadian provinces and the adjoining states or between the Canadian total and the total for the border states. The Canadian estimates do not include the annual acreages or production of wild hay (prairie, marsh, and saltgrass hays), which make up a large proportion of the acreage in the western border states and, presumably, in the Prairie Provinces. The agricultural Census of Canada obtained records of wild hay harvested but not of acreage cut. Grains cut for hay are also of major importance in the Prairie Provinces, and records of acreage and production have been obtained by the census since 1920. However, yearly estimates of acreage and production have been made only for Alberta.

Estimates of Livestock Numbers and Production

The estimates of livestock numbers and values and of total livestock slaughter and meat production and consumption are made in the Live Stock Section of the Agriculture Division of the Dominion Bureau of Statistics. This Bureau is a part of the Department of Trade and Commerce of the Dominion Government and is located in Ottawa. The gathering, assembling, organizing, and publishing of statistical matter dealing with the many aspects of the Canadian economy is done largely in the Dominion Bureau of Statistics (the D.B.S. as it is commonly called). Not all of the figures on livestock are prepared in the Agriculture Division. Other divisions get information on operations of the meat packing industry, exports and imports of meat, and retail prices of meats and make the census of livestock numbers.

Other sections of the Agriculture Division make estimates of acreage and production of crops, and of production of dairy and poultry products and issue monthly crop reports. In general the activities of this division are quite similar to those of the commodity divisions under the Crop Reporting Board of the Agricultural Estimating Service in Washington. The important difference is that the U. S. Estimating Service is in the Bureau of Agricultural Economics of the Department of Agriculture and it is not associated administratively with organizations gathering and publishing statistics on subjects not connected with agriculture.

In Canada two general surveys covering livestock numbers are made by the Live Stock Section, one as of June 1 and the other as of December 1. Two estimates are made each year of livestock numbers on farms, as of June 1 and December 1. The June 1 estimates have as their base the cencus enumeration of livestock which is made as of June 1 every 10 years for all provinces and every 5 years in the Prairie Provinces. The decennial census is made in the first year of each decade (1921-31-41) and the quinquennial census in the Prairie Provinces in the sixth year (1936-46). The long-time series is that of June 1, although comparable yearly estimates as of this date only go back to 1906. The December series was started in 1931. The original base for this series was the expansion of the average number per farm for sample farms by the estimated total number of farms. It has been carried on largely as an independent estimate in that the year-to-year changes are made on the evidence of the December samples and have not been definitely related to the June changes.

The two livestock surveys are made by means of questionnaires distributed largely by mail to a large number of farmers in each province. These questionnaires ask for detailed reports on different species of livestock by age and sex separations, on births and deaths, on purchases and sales, on farm slaughter, and on intentions as to breeding and dispositions during the following 6 months. The June questionnaire, which also asks for acreage sown to various crops during the current year, is the main source of information from which estimates of crop acreage are made each year. It also includes some questions on farm labor. The December questionnaire, in addition to the livestock questions, includes others on farm wages, acreage and production of main crops for the past crop year, and seeding of fall crops.

These questionnaires are mailed directly or indirectly from Ottawa to a large list of farmers, which is made up from records of the Agricultural Census in some provinces and from rural directories of the Post Office Department in others. In Quebec the distribution is made through the schools. Since county or crop district estimates of number are made, a much larger sample is needed than would be needed if only over-all provincial estimates were made.

The completed schedules are returned to Ottawa for editing and tabulation, except in Ontario and Manitoba where they are returned to the offices of the statisticians in the Provincial Departments of Agriculture. In practice, all of the stock and crop estimates in Ontario are prepared in the Provincial office, and these are accepted by the Dominion office. The returns for Manitoba are edited, tabulated, and summarized in the provincial office and summaries are sent to Ottawa, with recommendations which are usually taken.

Until a few years ago it was the practice in the Dominion Bureau of Statistics in Ottawa to match schedules for the current year with those of a year earlier and discard schedules that could not be matched. The indication of change from this "matched farm" sample was the principal evidence used in making estimates for the current year. More recently this practice has been modified, and all the current year's schedules are tabulated, as well as the matched shcedules, and indications from the average numbers per farm from the total smaple are available for comparison with the matched sample indications.

The information from these surveys is used not only for the published reports on the numbers of livestock on farms by classes, but also for the published reports on the numbers of sows farrowed and pigs weaned for the spring (December 1 to June 1) and fall (June 1 to December 1) seasons and breeding intentions for the following seasons. They also furnish information on the calf and lamb crops, death losses, net sales off of farms, and other factors that are used in making estimates of net slaughter, meat production and consumption, and per capita consumption of different kinds of meat.

Formerly it was usually some months after the survey schedules were returned before the reports giving the estimates of numbers, of pig crops, breeding intentions, etc., were published. The reports based on the June 1 survey were usually issued in the latter part of September and those based on the December 1 survey the following April. More recently the releases have been advanced considerably. This delay tended to reduce the value of the information both from the points of view of producers and of marketing interests. This was particularly the situation as regards the pig crop reports, whose maximum value derives from their prompt preparation and releases. In the interest of more timely information with regard to present and prospective pig crops the marketing service of the Department of Agriculture initiated a project to obtain current information on changes in breeding activities on hog farms. For this purpose an arrangement was made with the agricultural representatives (commonly called "ag reps") of the Extension Service to get quarterly reports either from boar owners or from pig raisers as to the number of sows bred during the preceding 3 months and comparable information for the corresponding period a year earlier. These reports are tabulated by the agricultural representatives, and a summary is sent to a nearby office of the Live Stock Section of the Marketing Services, together with brief comments on the local hog situation. The reports for different areas are consolidated, and a summary of the totals and comments is sent to the Ottawa office of the Live Stock Section of the Marketing Services, where the area totals are consolidated into totals by provinces. Neither these actual figures nor the relative changes shown by them are published; they are used in making a forecast of hog marketings by provinces and by counties or districts for the coming 2-month period. This rather unusual method of suing this information is a result of an understanding that the Marketing Services of the Department of Agriculture may compile and publish records of market movements, market prices, and prospective marketings, but that all reports as to numbers, production, pig crops, etc., shall originate with the Dominion Bureau of Statistics.

The Industrial and Development Council of Canadian Packers, which is the trade organization of the industry, is planning to set up a reporting service of its own to obtain information for use in forecasting hog production and marketings. The plan involves the building up of a list of reporters made up of farmers, drovers, bankers, and others, selected for their general knowledge of and interest in the hog industry. A short questionnaire of the opinion-type will be sent these reporters at the close of each month asking whether the number of sows bred during the month was larger, smaller, or about the same as in the preceding month and in the corresponding month a year earlier. These reports will be tabulated and summarized within a week or 10 days and a report prepared on the basis of these indications.

An important difference in the procedures followed in making the yearly estimates of livestock on farms in Canada and in the United States is that the estimates for the current year for Canada are fixed and not subject to revision until new census figures become available at the end of the decennial period; for the United States the current year's estimates are preliminary and may be, and frequently are, revised the following year. For the three Prairie Provinces, where a quinquennial census is made, the new census figures are substituted for the estimates of that year, but no revisions are made for the five preceding years until the decennial census figures are available 5 years later. If the quinquennial census figures differ materially from the estimates for that year (for example, cattle numbers in 1946) a break in the comparability of the yearly estimates arises in that all of the changes between the estimates and the census are shown as occurring in one year.

The preliminary estimates for the states of the United States are revised largely on the basis of changes in the numbers of livestock returned for assessment. Assessment figures exist for nearly all of the important livestock states and become available during the year following January 1 as of which the estimates are made. In some states the assessors make actual enumerations of some classes of livestock. In Canada, where real estate taxes are the principal source of funds for local governmental activities, livestock are not taxed, and hence no returns of numbers are made. A new census of Agriculture for all of Canada will be made as of January 1, 1951, and it may be 1953 before revisions of the present estimates will be made.

LIVESTOCK RANCHES IN CANADA

Development of Ranching in Canada

Until about the beginning of the present century the provinces of Saskatchewan and Alberta and the intermountain region of British Columbia were largely unsettled, and most of the vast expanse of prairie and foot-hill lands was open country with the grass free to all who had livestock to use it. The territory comprising the Prairie Provinces became a part of the Dominion of Canada in 1870, and cattle and sheep ranching operations spread over much of the area where feed and climate conditions were favorable. Originally the Hudson's Bay Company claimed title to the lands in the provinces, but the Dominion in the 80's effected a settlement with the Company by which it was given title to some 6.6 million acres distributed generally over the country.

Land grants were made to the railroads among other inducements to encourage the building of trans-continental lines, and these, as in the western United States, were usually alternate sections for 20 miles on each side of the right-of-way. Later these were consolidated into solid blocks by exchange arrangements. The total of such grants was some 32 million acres. Other considerable areas were given in blocks at nominal prices to colonization and irrigation companies. The bulk of the land, however, was open to homestead.

The Dominion policy of control and disposition of the Crown lands (equivalent to the public domain in the United States) was somewhat different from that followed in the United States. 4/ The first Dominion Act provided for the leasing of lands for grazing purposes, and leases up to 100,000 acres at low rental were made, but, until the turn of the century, the use of most of the grazing lands was free. The typical cattle ranch consisted of the ranch headquarters, a limited acreage of hay or crop land, and some fenced pasture land. Only feed enough for saddle and work horses was raised, and in some cases for winter weanling calves. The basis of the production was free grass. During this period, however, some large cattle ranches were established on a more permanent basis when ranchers purchased lands which they had held on lease. This was done through arrangements with land and railway companies which selected lands held under lease by the ranchers as part of their government grants and later resold these lands to the ranchers.

As the cattle industry in the United States recovered from the effects of the depression and drought of the 1890's, prices advanced rapidly. The new "boom," which developed in the range cattle business, extended across the border into the Prairie Provinces. Cattle operators in nearby states moved in cattle, and local dealers shipped many native cattle from Ontario into the Prairie Provinces. This "boom" reached it's peak about 1903.

Toward the end of the 19th century, grain farmers began to pour into the Prairie Provinces to homestead land for raising wheat; the influx reached large proportions by 1910, and continued unchecked until about 1920. The grain farmers soon took up and fenced much of the best available land, and the open range for the use of cattle in those areas came to an end. Ranchers lost much of the land that they held on long-term government leases subject to cancellation on 2 years' notice for homesteading. High wheat prices during the World War I period, and a series of favorable crop years, encouraged the further expansion of farming, and ranch operators were steadily pushed to land that was unsuitable for farming. Many ranchers undertook to protect their holdings and purchased land at prices that were much above its value for grazing purposes, except at wartime prices for cattle. With the deflation of cattle prices in the early 1920's, the heavy debts incurred to buy land bankrupted many ranchers, including a number of the larger ones.

4/ C. W. Vrooman, G.D. Chattaway, and Andrew Stewart, Cattle Ranching in Western Canada.

During the 1920's various efforts were made to improve the situation of the ranch operators, and out of these came regulations establishing 21-year, nonterminable leases. But in 1930 the Crown lands were turned over to the respective provinces. During the drought and depression years of the 30's much land that had been homesteaded for grain farming was abandoned, and title reverted to the provinces for nonpayment of taxes. This was especially the case of the poorer land -- much of which never should have been broken up. A considerable acreage of this land was located in areas which were essentially ranching areas.

Ranching Areas and Grazing Practices

There are some six well-defined ranching areas, three in the southern part of Alberta and southwestern Saskatcheean, one in central Alberta, and two in central British Columbia. Two of the areas in southern Alberta and Saskatchewan are prairie-type range areas, where year-round grazing is customary, with provision of feed for winter use during stormy periods. The one in central Alberta is a prairie type, but prolonged winter feeding is necessary in this area. The other in southern Alberta is a foothills type which combines the use of summer mountain range with nearby rolling foothills. The ones in British Columbia are essentially mountain-type ranches, which combined valley pastures and hay lands with summer pasture in the mountains and spring and fall pasture on the slopes. Stock must be fed during the winter period.

A study of land tenure of selected ranches showed that leased and rented land exceeded deeded land in five of the ranching areas. The sixth area, where deeded land made up much the largest proportion of the total, was in British Columbia, where much of the open season grazing was on provincial land on a head per month basis. In other areas some of the ranches had access to land, public and private, where grazing was obtained on a per head basis. In two of the Prairie Provinces progress has been made in establishing community pastures on land abandoned by wheat farmers or never taken up. These community pastures, which include up to 10,000 to 12,000 acres, are fenced and cross-fenced. The land that had been plowed up is reseeded, mostly to crested wheat grass, and ample watering facilities are installed. Separate pastures are maintained for breeding cattle and for cattle to be marketed. In most cases community bulls are maintained, and service is on a fee basis. The use of these pastures is allocated largely to nearby farmers and small ranchers. Applications for grazing are made in advance of the pasture season, and available capacity is allocated partly on the basis of need and partly on prior use. These pastures are used only during the summer grazing season, and owners have to provide their own winter pastures and feed. Some of the larger ranches send a part of their cattle to these pastures, even when they have considerable acreages of provincial land under lease. The use of the community pastures is paid by monthly fees per head, but the land actually leased by the ranchers is on a charge per acre basis, which may be at a fixed amount or on a contingent basis. In the latter case, the carrying capacity of the land is determined. The normal gain per unit in a grazing season is set at 250 pounds. The value of these 250 pounds is computed at the average price per pound for all cattle at the Calgary Market during the last 6 months of the year. The rental is one-tenth of this value, and this amount divided by the number of acres needed per grazing unit indicates the per acre rental.

The grazing leases are now made for long terms, up to 35 years. They are not assignable, but when they are tied in with a considerable acreage of deeded land the lease usually will go with the land when ownership is changed.

In Saskatchewan and Manitoba a large number of community pastures have been established by the Prairie Farm Rehabilitation Act, commonly called the P.F.R.A. This organization was established by act of the Dominion parliament in 1935 to rehabilitate both the farmers and the land in the Prairie Provinces following the devastating effects of the depression and drought of the early 1930's. The establishment of these pastures was one of the numerous projects originally delegated to the P.F.R.A., but its actitivities are now confined largely to water conservation and land utilization on projects undertaken by the Government of Canada. The establishment of community pastures in Alberta has been under the provincially-established Special Municipal Area Board. The P.F.R.A. pastures are usually large enough to make possible the maintenance of a manager who resides on the project and who is furnished with the necessary facilities and equipment. Most of the pastures are over 20,000 acres in area. Usually there is a Grazing Association made up of the pasture clients of each pasture, who appoint a council to assist the manager in allocating pasture privileges and establishing regulations. Among other activities of the pasture administration is the furnishing of bulls. A bull development farm has been established, where bull calves are bought each fall and kept until 2 years old and then sent out for service. A service fee is charged the cow owners. The land in the pastures is given by the provinces from Crown lands and farm lands taken over for taxes. So that the pastures will be made of solid blocks of land, farmers residing in the pasture area are given other land outside and moved to their new location. To assist in marketing cattle, several cocperative auction sales have been held at community pastures. Through reseeding, water development, and controlled grazing, the carrying capacities of the pastures have been markedly increased.

The users of these pastures are nearby farmers, and the number of head per user is usually not large. In many respects, however, the operation is more nearly comparable to ranching than to farm-type cattle raising. The establishment of these pastures has often been associated with water development for irrigation which makes possible the production of hay and other feeds and reduces the hazard of shortages resulting from droughts. 5/

Marketing of Ranch Cattle

Cattle from the cattle ranches of Canada are usually marketed as grass-fat or cull cows, which go largely for slaughter, or as feeder steers and calves. There are limited numbers of grass-fat steers, but the number of aged steers kept has tended to decline over the years. Cattle are shipped to the stockyards markets for sale or are sold at the ranch or at local auction markets to packer buyers and feeder cattle buyers. Cattle bought direct by packer buyers may go to local plants for slaughter or may be shipped to other plants, either east or west. Direct purchases of feeder cattle may be shipped to eastern markets for resale, exported direct to the United States, or moved to local feedlots.

5/ Canada's Sheep and Wool Industry, p. 93.

All ranch cattle (also farm cattle) are branded and are inspected for brands at the stockyards. The brands are registered with the provincial brand offices, and brand inspections at the market are made by inspectors appointed by these offices. All cattle moved by truck must be accompanied by a manifest showing the brands, and these are subject to check by the Royal Canadian Mounted Police. The protection of ownership by brand inspection, however, is rather limited, compared to that in most of the western range states. In the Prairie Provinces brands are largely evidences by which owners can prove ownership. In the western states they are, in addition, evidences of nonownership. When cattle are brand-inspected at Canadian markets, a record is kept of all the brands in all shipments, but the shipper does not have to prove ownership, by bills of sale or otherwise, nor are the owners of the different brands notified of the inspections.

The rule in the most of western range States is that the shipper to a market must have proof of ownership of brands other than his own, or the proceeds of the sale will be held up and the owner of the brand notified. In the case of shipment to points other than the stockyards markets, either by rail or truck, local inspectors will hold up cattle with brands for which there is no evidence of ownership.

Sheep Ranching

The sheep ranching activities in western Canada are located largely in the same general areas as cattle ranching -- southwestern Saskatchewan, southern Alberta, and south central British Columbia. The relative proportions of deeded and leased lands are much the same as for cattle ranches. 6/ In Alberta much larger percentage of non-provincial land seems to be leased by sheep ranchers than by cattle ranchers. In general, range sheep are run on poorer grazing lands, including considerable acreages of little use for other grazing animals. On the prairie-type ranges year-long grazing is the rule, with only enough feed furnished to carry over during periods of bad storms and deep snows. The lambs produced on these ranges are largely feeder lambs that are sold in the fall to feeder lamb buyers or are put out with grain farmers to be fed on a gain basis. The lambing season is mostly in late April and May. The sheep are largely of Merino type, and most of the wool is fine and fine-medium.

There has been a sharp decrease in the number of range sheep in Alberta and Saskatchewan in recent years, with a resulting decrease in the supplies of feeder lambs. Some range flocks were sold out completely and replaced with cattle, and others were reduced by not keeping or buying sufficient replacement ewe lambs.

In British Columbia sheep production is devoted to the production of slaughter, rather than feeder, lambs. The rams used are mostly mutton-type, and lambing occurs largely in February and March. The ewe bands are wintered on ranch pastures and fed hay and some grain. The ewes and lambs are moved to higher ranges as the snow disappears, and they summer in the mountains. Most of the lambs reach slaughter weights and condition by late summer, and many are moved directly from mountain ranges to slaughter, largely in Vancouver.

6/ L.E. Kindt, An Economic Analysis of the Sheep Ranching Industry in Western Canada, p. 4

LIVESTOCK FEEDING IN CANADA

Market records of shipments of cattle by grades from counties or crop districts by provinces indicate that some cattle are fed in most localties in the Prairie Provinces and Ontario. But the areas where cattle feeding is an important operation are rather limited. In 1949 two-thirds of the cattle that might be considered as having had some grain finish came from Alberta and Ontario, the number from Alberta being the larger.

Cattle Feeding in Alberta

In Alberta there are two rather distinct cattle-feeding areas. One of these is in the irrigated farming section of southern Alberta, centered around Lethbridge. The other is in central Alberta in the mixed farming region and feeding tends to be concentrated in the supply areas of the Calgary and Edmonton livestock markets.

To a very large extent cattle feeding in the southern area is associated with the utilization of sugar beet by-products from the sugar factories, where the beets from the irrigated farms are processed. Cattle are fed wet beet pulp, hay, and grain, which includes large quantities of screenings, as well as barley and feeding wheat. Formerly much of the feeding was done by commercial feeders who bought pulp and grain, but at present it is mostly by farmer feeders in their own feedlots. In addition, the sugar factories feed some cattle in their feedlots and on their farms. Some fairly large farm feeding operators use pulp and home-grown hay and locally available feeds. An increasing number of farmers are feeding cattle without use of pulp. A new sugar factory commencing operations in 1951 will dry the pulp and sell dried pulp to feeders. Cattle feeding has nearly doubled in the area in the last 10 years, and, with an expanding acreage of land under irrigation, further expansion in feeding is probable.

In the nonirrigated feeding area of central Alberta cattle are finished on pasture, hay, grains (barley and feeding wheat), and screenings. There are some large commercial-type operators, but most of the feeding is on farms. To some extent the farm feeding is of a custom-type on a fixed price per pound of gain basis.

Cattle feeding in Alberta has been encouraged by both the Dominion and Provincial Governments. The Dominion experimental stations have carried on rather extensive experiments with cattle feeding to develop new methods and feeds, and the Feeder Purchase Policy has encouraged the movement of feeder cattle from ranches to areas where feeds were available. The Provincial Government has given substantial assistance by encouraging the establishment of provincial feeders associations and by providing funds for carrying part of the risk. These associations finance the buying of the cattle by guaranteeing up to 25 percent of the loan, with over-all losses up to this amount assumed by the Provincial Government. The amount of the loan to any feeder was limited (to $4,000), which tended to restrict the activities to relatively small operators. In the Lethbridge area an overhead organization for 7 local feeder organizations was set up to assist and advise the associations, but as the financial situation of the feeders improved and the prices of feeder cattle advanced, a different type of organization seemed desirable.

The Chinook Feeders Association was established with a membership of individuals, who each contribute $500 to the guarantee fund. The purchase of feeder cattle is financed by the Association, with each member giving a note for 10 percent of the purchase cost of cattle fed by him. This is the feeder's assumption of risk. The cattle fed remain the property of the Association and carry its brand. The Association has fieldmen who make periodic visits to feedlots, advise feeders, and check upon progress of the cattle. The 10 percent assumption of risk covers the over-all seasons' operations of the Association, not of the individual feeder.

Cattle Feeding in Ontario

The important feeding area in Ontario is a block of some nine counties on the west side of the peninsula between Georgian Bay and the west end of Lake Ontario. 7/ These counties either front on Lake Huron or adjoin counties that do. In 1949 about two-thirds of the steers and heifers grading choice and good and fed-calves marketed from Ontario originated in these counties, and over 75 percent originated in these counties and two others. 8/ While these classes undoubtedly included cattle and calves that had not been grain-finished, the greater part of them were given some grain finish, either in feedlots or on pastures. In 1949 upward of 85 percent of the cattle shipped into Ontario were taken by these 11 counties. As of December 1, 1948, these counties had 57 percent of all cows kept for beef in the province and 65 percent of all steers 1 year old and over. 9/

The cattle fed in Ontario are both locally-grown and shipped in from the Prairie Provinces and from the Toronto Market. In 1948 some 48,000 cattle were shipped direct to feedlots in eastern Canada. These were shipped both from livestock markets in western Canada or from country points in the Prairie Provinces. In addition, some 50,000 slaughter, stocker, and feeder cattle were shipped from the Prairie Provinces to stockyards in eastern Canada, the feeder cattle going largely to Toronto. Most of these feeder cattle were then shipped to feedlots in Ontario, but some were exported to the United States.

The principal feed grain used by Ontario feeders is barley, both locally-grown and shipped in from the Prairie Provinces. Other grains used are corn, locally-grown and imported from the United States, low-grade wheat, oats, and ground screenings. Most of the sugar beet acreage and a considerable part of the acreage of vegetables used for canning are found in or near these 11 feeding counties, and by-products of the sugar factories and canning plants are used to supplement grain fed to cattle in feedlots.

Length of Feed

Comparatively few cattle fed in Canada are given a finish that is comparable with that of the better grades of cattle from feedlots in the United States. There is little consumer demand in Canada for heavy carcasses nor for any carcasses carrying a considerable covering of fat.

7/ Bruce, Grey, Huron, Perth, Wellington, Middlesex, Oxford, Lambton, and Kent.
8/ Norfolk and Ontario.
9/ Ontario Department of Agriculture, Statistics Branch. "Live Stock Numbers in Ontario." Monthly Crop Report, Bulletin 350, Toronto, March 1949.

The few carcasses weighing over 700 pounds are either broken up, with the "hinds" and "ribs" going almost entirely into the hotel, restaurant, and steamship trade, or they are shipped to the United States. Hence there is very little long-period feeding in Canada (6 months and more), and desired feeder cattle are 700 to 850 pound, well-conditioned steers and heifers for a short feed and light yearlings for a longer turn. Of the total cattle marketed in Canada in 1949 choice steers and heifers made up 5.8 percent and good steers and heifers 15.1 percent. Fed calves made up 5.8 percent. These calves are beef-type calves that are fed to weights of 500 to 800 pounds, but not many of them are finished to a degree making them comparable with baby-beef animals from the United States feedlots. There is a steady demand from small retailers in eastern Canada for 300 to 350 pound carcasses of fairly good quality, with little fat, which will furnish small cuts of tender beef with little waste. Such carcasses come from these fed calves. Those grading good and choice are nearly all grain-finished, while medium calves are largely pasture-finished. In 1949 nearly half of the fed calves marketed were from Ontario. Prices for the better grades of these averaged the highest for all kinds of good and choice cattle, the premium being especially in evidence at the Toronto Market.

Feedlot cattle are marketed through stockyards, direct to packers, or exported directly to the United States. In 1949, of the total number of good and choice steers and heifers and fed calves going through stockyards markets and direct to packers, 57 percent went through stockyards and 43 percent direct. Of all cattle included in these movements, 64 percent went to stockyards and 36 percent direct. The number of fed cattle exported to the United States is not known. There is no record of the grades of cattle exported. Information is available as to the kinds and prices of slaughter cattle shipped to the United States from stockyards markets, but none is available on cattle shipped direct on export. In 1949 direct exports made up 43 percent of all cattle exported. There is a rather heavy movement of feedlot cattle from country points in southern Ontario to the stockyards markets and direct to packers in Buffalo and Detroit, and some cattle sold out of Alberta feedlots go to middle western and Pacific coast packers in the United States.

Lamb Feeding

Lamb feeding in Canada as a separate activity is quite limited and is confined largely to Alberta and Ontario. Most lambs and sheep are marketed and slaughtered in the second half of the year and go to slaughter from pastures with little supplemental grain feeding. This results in a much wider seasonal fluctuation in slaughter supplies in Canada than in the United States. In Canada from 15 to 17 percent of the yearly slaughter is in the first 4 months of the year and around 60 percent in the last 4 months. In the United States, 30 to 33 percent of the inspected slaughter is in the first 4 months and 35 to 40 percent in the last 4 months.

The ranch-raised lambs from southern Alberta and southwestern Saskatchewan are mostly feeder lambs. Most of these go to nearby feedlots or to lots adjacent to the stockyards markets; some go to eastern Canada, largely direct to feeders in Ontario and to the Toronto Market. The greater part of the lambs shipped east are billed to packing plants, and in the past considerable numbers were fed in lots operated by or for these packers. In several years, notably 1944, 1945, 1949, and 1950, a large part of the lambs fed in western Canada were shipped to the United States.

There are a few fairly large lamb feeding operations in Ontario, aside from those with a packer tie-up. Most of the lambs marketed during the winter months are local farm-raised lambs that are held over and given additional weight and finish. These operations are in small units.

CANADIAN MEAT INDUSTRY

The framework of the Canadian meat industry is similar to that of the industry in the United States. The conversion of meat anumals into meat is handled by three kinds of slaughterers -- the large packing company that moves meat products into local, interprovincial, and international trade, the small packer who moves meat largely into local, but also into provincial, interprovincial, and occasionally international trade, and the local butcher who moves meat through his own retail establishment. In general, the first group engages solely in wholesale distribution, and the second group, largely in wholesale, but in some cases retail; and the third group almost entirely in retail distribution.

Establishments shipping meat products in interprovincial or foreign trade are subject to inspection by the Dominion Health of Animals Service. This inspection covers sanitary control of means and methods of operations and also health and condition control of anumals slaughtered and meat produced. A limited number of establishments operating as wholesale distributors are not under Health of Animal inspection. Some of the larger ones are subject to the hog grading authority of the Dominion Marketing Services and must buy hogs on a grade basis at carcass prices. These plants usually sell locally and are subject to provincial or municipal sanitary control. An indication of the number and relative importance of these two groups of wholesale plants is shown by the number of animals slaughtered. The Animal Products Section of the Industry and Merchandising Division of the Dominion Bureau of Statistics obtains annual reports from all plants that do some wholesale business and process some meats. In 1948 the number of head slaughtered in the 140 establishments reporting were: cattle 1,550,834 calves 828,441 hogs 4,802,890, and sheep and lambs 841,091. In the same year the numbers slaughtered in inspected establishments, of which there were 60, were cattle 1,489,883, calves 787,410, hogs 4,487,649, and sheep and lambs 768,943. In 1948 the number of hog carcasses graded in the inspected and in 46 approved noninspected plants totaled 4,767,860.

Wholesale Meat Packing Companies

The three large packing companies in Canada are Canada Packers, Limited; Swift Canadian Company, Limited; and Burns and Company, Limited. Canada Packers has 9 slaughtering plants, 2 each in Quebec and Ontario, 1 in each of the 3 Prairie Provinces, 1 in British Columbia, and 1 in the Maritime Provinces. Swift Canadian has 7 plants, 1 in the Maritimes none in Quebec, and 1 in each of the other provinces except Alberta, where there are 2. Burns and Company has 7 plants, 1 in Ontario, 1 in Manitoba, 2 each in Saskatchewan and Alberta, and 1 in British Columbia.

The development of these three large companies took place under somewhat different conditions. Canada Packers was formed by the amalgamation of a number of independent plants. In 1927 and 1928 the Harris Abattoir Company took over the plants of Gunns, Limited, and of the Allied Packers and merged with the William Davies Company in a holding company known as Canada Packers, Limited. In 1930 and 1931, this holding company was changed into an operating company, and since then several new plants have been built.

Swift Canadian, Company Limited, is a subsidiary of Swift and Company of the United States. It is a separate Canadian corporation with its own board of directors, but the stock is owned by Swift and Company of the United States and direction and policy come largely from the Chicago office. The original plant was in Toronto, and the Toronto Stockyards formed part of the Swift interests. Additional plants were built or bought mostly in the West, as growing livestock production made expansion seem desirable.

Burns and Company started as a cattle slaughtering enterprise in Calgary as a subsidiary of the large Burns ranching operations. It has since expanded by building or buying other plants, largely in the Prairie Provinces. It has always been largely a fresh meat operation and has been relatively less important factor in the pork business. The present company is not directly affiliated with the Burns ranches.

Each of these companies has branch houses for distribution of products in cities other than where the plants are located, and this distribution tends to be Dominion-wide. They also have organizations or representatives in Great Britain and the United States to assist in, or direct, the distribution of export products.

There is no published information as to the proportion of the total wholesale or inspected slaughter by these three companies, since all records for individual plants are confidential. The proportion doubtless varies among kinds of meat animals and among provinces and depends on the volume of marketings. It is probably largest with sheep and lambs, smallest with calves, and larger with cattle than with hogs. It is also probably larger for all classes in the Prairie Provinces than in eastern Canada; also when livestock supplies are large. Since these three companies operate 23 of the 60 inspected plants, informed opinion has indicated that possibly 75 percent of the total inspected slaughter on the average is done in these plants.

Nearly all of the other inspected plants and of the noninspected wholesale plants are located in Ontario and Quebec. Of the 140 wholesale plants listed by the 1948 report on the slaughtering and meat packing industry, 91 were in these two provinces, 33 in Quebec, and 58 in Ontario. Included in the 140 are some municipal abattoirs and some processing plants that do not slaughter livestock. An indication of the size of these plants is best shown by the number of plants with varying numbers of employees. In 1948, 55 plants had less than 20 employees; 27 had from 20 to 50; 17 had from 50 to 100; 20 had from 100 to 300; and 21 had over 300. The 23 plants of the three large companies probably represented 20 of the 21 plants with over 300 employees and 3 of the 20 with 100 to 300. Of the 82 plants employing less than 50, 60 were located in Ontario and Quebec. The report does not show the number of plants slaughtering different kinds of livestock. Some of the plants in eastern Canada confine their operations very largely to slaughtering hogs and calves.

Some of the larger inspected plants not operated by the three large companies distribute their products over a considerable area around the point where located. They also process hogs for export and ship beef and dressed calves to the United States. Several of them do some custom slaughtering of cattle and calves for retailers in their own trade area and also for export to the United States. Some of the small plants located away form the livestock market centers ship dressed carcasses, especially of calves, to the large cities both on order and on consignment.

Retail Slaughter and Distribution

There is little published information on the number of retail butchers or the volume of their operations. One indication as to their possible volume is the difference between the estimated total slaughter of different classes and the reported slaughter in the 140 wholesale establishments. In 1948 the estimated net slaughter in Canada was 1,953,000 cattle, 1,554,000 calves, 7,441,000 hogs, and 1,148,000 sheep and lambs. These numbers exceed the reported wholesale slaughter by 403,000 cattle, 726,000 calves, 2,638,000 hogs, and 307,000 sheep. Included in these numbers would be livestock slaughtered on frams for home use and sale. Yearly estimates of such slaughter are not published. The 1941 Census of Agriculture showed total farm slaughter in 1940 of 162,000 cattle, 160,000 calves, 1,004,000 hogs, and 69,000 sheep. If the farm slaughter in 1948 was about the same as in 1940, the indicated retail slaughter was 231,000 cattle, 566,000 claves, 1,634,000 hogs, and 238,000 sheep. During the war years under rationing and price control all slaughterers (except farm) were licensed by the War Time Price and Trade Board. Reports of operations were required from all slaughterers, but records of numbers of plants licensed and of slaughter reported have never been published. Tabulations of similar records obtained from all slaughterers in the United States gave a dependable basis for estimating retail slaughter, and monthly and yearly estimates of such slaughter are now made.

The retail distribution of meats in Canada is made by markets limited to meats and meat products, by meat sections of food stores, and by food departments in general department stores. In the cities and larger towns, the exclusive meat markets get most of their supplies from wholesale slaughterers. In small towns and villages the markets generally handle fresh meat from animals slaughtered by the operator or bought dressed from nearby farmers. Cured and processed meats may be either locally produced or bought from wholesale distributors.

LIVESTOCK MARKETING IN CANADA

Central Public Markets

The methods by which livestock, especially meat animals, are marketed in Canada are quite similar to those in the United States.

The Live Stock and Live Stock Products Division of the Marketing Services of the Dominion Department of Agriculture maintains market reporting and livestock grading offices at the 12 public stockyards officially accredited as public markets by the Dominion Department of Agriculture. Two of these are located in Quebec at Montreal, one in Ontario at Toronto, one in Manitoba at Winnipeg, four in Saskatchewan at Regina, Moose Jaw, Saskatoon, and Prince Albert, three in Alberta at Calgary, Edmonton, and Lethbridge, and one in British Columbia at Vancouver. The most important markets in point of receipts are Montreal, Toronto, Winnipeg, Calgary, and Edmonton; the others are relatively small with receipts of no class of livestock reaching 100,000 head a year.

The organization of these stockyards markets is much the same as that of such markets in the United States. A stockyards company operates the yards and facilities. Five of the yards are owned by one or both of the two principal railroad companies--the Canadian Pacific (C.P.R.) and the Government-owned Canadian National (C.N.R.); two are owned by cooperative livestock organizations, and four by private companies. The Toronto yards are owned by the Province of Ontario and are operated under the direction of the Provincial Department of Agriculture. The operation, however, is by a stockyards board whose members are appointed by the Ontario Minister of Agriculture. This board selects the manager, and the details of the operation are little different from those of other yards. These yards originally were among the stockyards interests of Swift and Co, but when the so-called "consent decree" of 1920 required the four large United States packers to divest themselves of stockyards interests, the yards were taken over by the United Stockyards Co. Several years ago the Province of Ontario took ownership of the yards through condemnation proceedings and established the present methods of operation. Under Dominion legislation establishing the Marketing Service of the Dominion Department of Agriculture, authority is given to the Live Stock and Live Stock Products Division to supervise the operations of stockyards and marketing agencies. Whether this authority applies to the operation of provincially-owned facilities is a moot question, which has not yet come up for determination.

The marketing agencies by which livestock is bought and sold usually consist of commission firms, that sell and buy on commission; traders, who buy and sell on their own account; order buyers, who buy for interests outside the market; and packer buyers, who buy for packing plants located at or near the stockyards. At five of the larger markets these agencies are organized into livestock exchanges. These exchanges are permitted to establish among their members trading rules and regulations where these do not contravene the provisions of the Dominion Live Stock and Live Stock Products Act or the rules and regulations of the stockyards companies.

There are cooperative selling agencies at most of the stockyards markets. These are usually closely tied in with local cooperative shipping associations and get much of their livestock from such associations. In the Prairie Provinces the livestock marketing cooperative organizations are often affiliated with the larger grain marketing cooperatives, in some cases having been set up by them.

The trading rules and regulations and charges are subject to approval or change by the Dominion Department of Agriculture, and final enforcement authority is with the Department. At one time much of this control authority was delegated to the livestock exchanges, but it has since been delegated to the managements of the stockyards.

Sanitary and livestock health regulations at the stockyards are under the jurisdiction of the Health of Animals Service of the Dominion Department of Agriculture. This organization, in its functions, is quite similar to the Inspection and Quarantine Divisions of the U. S. Bureau of Animal Industry.

Livestock receipts at the stockyards markets come by rail and by truck, and all the yards have separate unloading facilities to handle both movements. Most of the livestock moved from country points to markets located in the same province move by truck, but most of the movement to markets in other provinces, except that from Ontario to Montreal, goes by rail. All livestock shipped from the Prairie Provinces to eastern Canada, whether to stockyards or direct to packing plants or to feedlots, moves by rail.

Livestock consigned to stockyards for sale is delivered to the pens assigned to each selling agency, and the sale is made by direct negotiations between the salesmen and buyers. When a sale is made, the stock is driven to the scales and weighed. Each scale ticket shows the name of the sales agency, buyer, species, kind of livestock, weight, and price. These scale tickets are in quadruplicate, with one copy going to the sales agency, one to the buyer, one to the stockyards, and one to the Dominion Live Stock Marketing Office.

Although sale by direct negotiation between salesmen and buyers has been the rule at most stockyards, there is a growing sentiment in favor of sale at auction as an alternative method. In June, 1950 sales agencies at the Calgary yards established an optional auction market for cattle and calves, and plans have been made for building complete auction facilities. Before the end of 1950 most of the other markets in the Prairie Provinces adopted this method, and nearly all cattle and calves are now sold at auction at these markets. The newly opened market at Lethbridge is fully equipped for auction selling.

Local Auction Markets

This trend to selling at auction has developed as a result of the growth of local auction markets generally over Canada. Packer and feeder buyers have been operating freely at these local auctions, and, as much of the stock purchased goes either direct to slaughter plants or to feedlots or for export, the proportions of cattle and sheep going through the stockyards markets have been sharply reduced. At the same time, the sale of hogs on the basis of carcass grades and carcass prices has tended to divert a large part of the hog supply direct to packing plants.

In the 5 years, 1935-39, livestock sold at stockyards accounted for the following average precentages of total sales at stockyards, direct to packers, and direct exports: cattle 71 percent; calves 62 percent; hogs 27 percent; and sheep 51 percent. In 1948 these percentages dropped to: cattle 58 percent; calves 47 percent; hogs 13 percent; and sheep 36 percent.

Alternate Methods of Marketing

The methods of moving livestock from farms and ranches to stockyards markets and direct to packers and for direct export are largely the same as found in the United States. These include shipment by the owner, sale to local dealers or drovers, sale to truckers, shipment by local cooperatives, sale to packer buyers, and sale through local auction markets. Since most of the livestock production in eastern Canada is in relatively small units, few farmers have enough stock for sale at any one time to make up a full car or even a truckload. This is especially the situation as regards cattle. The few head of veal calves or cull cows that most farmers have for sale are mostly sold to local drovers or at local auction markets or shipped through a cooperative shipping organization. The buyers at the local auctions are usually local drovers or packer buyers. The stock purchased by drovers, direct or at auctions, is shipped either to a stockyards or direct to a packing plant. Many drovers have direct tie-ups with packing plants; others have indirect connections with packer buyers. Since there are no stockyards markets in the Maritime Provinces, and a large part of the agricultural area of Quebec and Ontario is far removed from the three stockyards markets in eastern Canada, most of the cattle and calves in sections distant from the stockyards go to the small packing plants nearby. For eastern Canada as a whole in 1949 only 52 percent of the cattle and 45 percent of the calves marketed went through stockyards markets. Ontario was the only province where more than 50 percent went to stockyards. The direct-to-packers totals include shipments to plants located at or near the public stockyards.

Cattle from the beef cattle raising and cattle feeding areas in Ontario are either shipped to the stockyards markets by the owners or sold at the farms to packer buyers or to drovers. During the last 2 years a considerable proportion of these cattle, particularly feedlot cattle, have been shipped to the United States, either through Buffalo or Detroit. Most of these cattle are sold at the farms to packer buyers from the United States; some are shipped by the owner to the stockyards for sale.

In the Prairie Provinces, especially in Saskatchewan and Alberta, cattle are sold in larger lots than in eastern Canada, and larger percentages of the marketings are by rail and to public stockyards markets. In the case of farms with small numbers - wheat and irrigated specialty farms - cattle are sold by much the same methods as in eastern Canada. Cattle of the ranch-type grower and the feedlot operators are mostly shipped by the owner to stockyards markets or sold at the ranch or feedlot to packer or feeder buyers. There are a number of fairly large local auction markets, and cattle are consigned there by the owners and bought by packer or feeder buyers.

Because of the bonus payment on Grade A and B hogs, which is only paid to the producer, very few butcher hogs are sold to drovers, and nearly all reach the packing plant as the property of the producer. Most hogs go direct to packing plants since the carcass grading and weighing method limits the services that a commission sales agency can perform. In 1949, of the 4.4 million hogs marketed in Canada, only 13 percent went to stockyards markets. Of those going direct to packing plants some 62 percent moved by truck. A truck load usually consists of hogs from several owners, and is made up by local shipping cooperatives, livestock truckers, or drovers on a handling fee basis. The carlot shipments are either consignments of large operators or are made up of a number of ownerships assembled either by shipping associations or drovers.

Sheep and lambs are marketed by growers in much the same way as cattle and calves, but a much smaller percentage of the total goes through stockyards markets. As total marketings have decreased over the last 5 years, the percentage going through stockyards has decreased from about 42 percent in 1945 to 35 percent in 1949. Lambs from small farm flocks are sold to truckers or drovers, shipped through a shipping association, or delivered by the owner to nearby packing plants. Feedlot lambs are either shipped by the feeder or sold to a packer buyer at the lot. Feeder lambs are either shipped to a stockyards by the grower or sold at the ranch or local station to feeder dealers or feeders.

Dominion Marketing Services

The Live Stock and Live Stock Products Division of the Dominion Marketing Services maintains offices at all livestock market points, with offices usually located at the livestock exchange building. In addition, it maintains district supervisors in most of the provinces who have charge of the operations of the division activities at all points in their territories. The functions of the Division office at the stockyards fall into three general classes; market reporting, livestock grading, and record compiling.

Market reporting. The market reporting service is concerned primarily in gathering information on current day's developments covering supplies and prices. Early estimates of carlot receipts are issued, followed later by estimates of truck receipts and total, together with carry-over form the previous day. A report prepared about 12:30 p.m. gives the trend of the market and price ranges, and another is prepared about 4:30 p.m. No typed or mimeographed reports are issued but various newspapers, press agencies, and radio stations are given short reports by telephone. Wires are exchanged between large markets, mostly on slaughter cattle. No bulletin board is maintained, and no current reports are posted covering either the local or other market conditions. Two radio reports on livestock prices usually are broadcast each day as part of general market reports on farm products. None of the stockyards or agencies maintains a radio reporting service.

One market reporter covers the market for cattle and sheep. Daily market reports are not prepared on hogs. The relatively few hogs that go through the stockyards and are handled by sales agencies are mostly sold on a dressed weight and dressed carcass price basis. Such hogs are weighed upon arrival to determine trucking charges and are then turned over to packers or butchers for slaughter. Hence, there are no stockyards scale tickets showing weights and prices. At some markets, at least, the carcass prices agreed upon are not shown until the carcass weight scale tickets are available, usually 1 to 2 days later.

Daily price quotation summaries are sent to the Market Information Section of the Marketing Services at Ottawa. Weekly typed summaries covering the principal developments during the week are sent to farm papers and radio stations and business organizations. Each Thursday the Information Section in Ottawa prepares a weekly livestock and meat trade report, which gives a general summary of market conditions including supplies and prices at the various markets for the current week, and a detailed statistical summary for the preceding calendar week.

Grading. The livestock grading section of the Division's activities covers carcass grading not only at slaughtering plants located at stockyards points, but at all plants where any considerable number of hogs are slaughtered. Carcass grading of all hogs is compulsory at all plants where grading is maintained. Payment on the carcass weight is not compulsory but must be on the basis of grade. In actual practice, however, practically all settlements are based upon carcass weights and carcass grades and reported market prices on a carcass basis. This hog grading service was inaugurated in the early 1920's on a live hog basis in an attempt to insure a proper price differential for better grade slaughter hogs and encourage the production of hogs suitable for supplying Wiltshire sides for the British markets. There are inherent weaknesses in any system of live grading in determining the actual dressed value of hogs because of differences in yield, differences in fat covering and differences in quality of the lean meat. Hence the compulsory live grading was far from satisfactory either to producers or packers, and practical methods for large-scale dressed grading were sought. Such grading involves special organization of processing and equipment, and it was some years before slaughter establishments were set up to make carcass grading feasible. By 1936 an adequate staff of trained carcass graders had been organized, and grading was shifted from a live to a carcass basis.

The top grades of hogs in Canada are bacon-type hogs that will produce Wiltshire sides suitable for export to Britain. To encourage the production of such hogs the Dominion Government adopted a policy of paying bonuses, at present $2 and $1 a head, on hogs grading A and B respectively. This bonus is payable only to the producer of the hogs, and in order to make such payment possible it is necessary to maintain identity of ownership until the hog has been dressed and graded.

The identity of ownership is established by tattooing a number on the shoulders of each hog and preparing an invoice or manifest showing the name of the owner for all numbers in the lot. The dressed hogs move along a rail and over an automatic recording scale. As the hog passes the scale the official grader determines the grade, and this is stamped on the carcass and recorded on the scale ticket, together with the tattoo number on the carcass.

The weight is recorded on the ticket and on an attached stub. The stub is torn off and attached to the carcass. The name and address of the owner of each hog is obtained from the manifest.

At time of grading the tickets are sorted according to tattoo identification. The tickets are later taken to the office, and the grade is entered on individual forms which have been previously headed up to show the farmer's name and address, number of hogs, tattoo identification, shipper, and date of delivery from manifests supplied by the shipper. At some plants the grading staff enter the grade as well as the amount of the premium. At other plants this work is done by the plant clerks. At all plants the individual carcass weights, as well as the symbols showing the reasons for down grading, are entered by the plant staff. All premium or bonus checks are signed by the official grader. Prices are entered, and all extensions pertaining to settlements are made by the plant staff.

The producer does not get a scale ticket, but the individual carcass weights are recorded on the combination grading and settlement statement. The scale ticket which shows the grade as well as the tattoo identification is filed. If the producer has any reason to question the grade or weight as shown on the grading certificates, the scale tickets are available for reference.

Carcass grading for other classes of meat animals is now made on a voluntary basis. The top grades of beef are the red and blue brands, which come from the better grades of steer and heifer carcasses. Such beef can be sold without being officially graded, but if a packer sells beef under his own grade name the carcass must first be graded by official graders and show the official grade stamp as well as that of the packer. Such official grading is done without cost to the packer.

Grade standards for live animals have been established and it is in terms of these grades that the livestock markets are reported. The nomenclature of these grades is much the same as that for livestock classes established by the U. S. Department of Agriculture. For beef steers and heifers there are four grades: choice, good, medium, and common. But because the grade names are the same it does not follow that cattle of the same grade in Canada and the United States are comparable cattle. Presumably the top grades, red brand and blue brand, of beef come from the top grades of cattle, which are choice and good. But the top grades of Canadian beef are not comparable with the choice and good grades in the United States. As a matter of fact, little Canadian beef would grade choice in the United States, and the red brand beef will hardly average up to United States good. There is little demand in Canada for beef with fat covering and marbling that is shown by fairly well-finished feedlot cattle in the United States, and the outlet for beef carcasses weighing over 700 pounds is very restricted. Judging from the relations of beef carcass grades of the two countries it appears that live cattle grades in Canada are about the equivalent of one grade below United States official grades for the top grades; that is, the choice Canadian slaughter steers are comparable with United States good grades. The bottom of the common grade, however, is probably not much different in the two countries. Apparently the Canadian grading has four grades

for the same range of quality covered in the United States by three grades - common to good. 10/

Market records. The record compiling activities of the Live Stock and Live Stock Products Division are very extensive. In no other country are such detailed records of livestock movements and prices compiled. Such complete records are possible because the legislation setting up the Marketing Services gave Government agencies the authority to take needed information from records of marketing organizations and processors. In the case of livestock, an extensive staff of market reporters and graders has been available for carrying on or directing the taking off of detailed records.

The records obtained by the field offices of the Live Stock and Live Stock Products Division are sent to the Market Information Section of the Marketing Services in Ottawa. There they are organized and consolidated, computations are made, and extensive, detailed reports are issued weekly covering the principal livestock markets and commercial slaughtering establishments in Canada. These weekly reports give a summary of market conditions and prices by markets for the current week. For the previous week they show the sales of cattle, hogs, and sheep by grades at different markets; numbers of hogs graded, by grades, in plants where grading is done, by provinces of location; receipts of livestock at different markets and direct at packing plants by provinces; average prices, by grades, by markets; and other pertinent information. A monthly Commercial Live Stock Output Report shows the movement to stockyards, direct to packing plants, and direct for export by grades for cattle, calves, and sheep and the number of hogs graded, by grades, all by provinces of origin. These provincial figures are then shown by counties, for Ontario and Quebec, and by crop districts for each of the three Prairie Provinces.

An annual market review is issued each year in two parts: (1) The Live Stock and Meat Trade and (2) The Output of Live Stock. Part 1 summarizes the information covered in the weekly reports for the year by months, and gives yearly comparisons for a number of years. Part 2 is a yearly summarization of the data included in the monthly output reports. For example, this shows cattle marketed from Ontario by counties and by classes - steers (in 2 weight groups and 4 grades), heifers (in 4 grades), fed calves, cows, bulls, stockers and feeders (steers and cows and heifers separately), milkers, and springers; also the totals going to stockyards, to packing plants, direct on export, and to country points in other provinces, and total cattle shipped in. These records make possible a ready determination of the principal beef cattle and cattle feeding counties in Ontario and the volume of fed cattle shipped from each county each year.

10/ This discussion is based on the live cattle grades prevailing in the United States before January 1, 1950. As of that date the grades of the U. S. Department of Agriculture were changed. The old "choice" grade became "prime" and the "good" grade became "choice". The old "medium" was split--part becoming "good" and the rest "commercial;" the "common" grade was changed to "utility."

All of this detailed information has its origin in the field offices of the Live Stock and Live Stock Products Division. Its sources are the scale tickets of all cattle, calves, and sheep sold at stockyards markets and the scale tickets or purchase records of cattle, calves, and sheep bought direct by packing plants and of hogs graded at all plants where hog grading is done. At the markets, the gathering of the data for the sotckyards movements is centered in the market reporting offices; the data for livestock bought direct by packers is gathered by the grading offices.

The separation of cattle into grades is made on the basis of the price quotations by grades determined by the market reporters at the stockyards markets. There are four grades of beef steers: choice, good, medium, and common. The market reporters, from their observations on the markets, fill out a detailed sheet showing the ranges of prices at which different classes and many grades are selling. All cattle selling within a particular price range as shown by the scale tickets are classified as of the grade covered by that range. The point of shipment is determined by matching the scale tickets with the manifests in the offices of the selling agencies. On special ruled listing sheets the information for each lot of cattle is entered under the proper heading. These listing sheets are sent to the Market Information Section in Ottawa where they are sorted, assembled, and tabulated and weekly and monthly totals of numbers and averages of prices are computed.

The high caliber of this market statistical service is possible because the basic information is available and trained personnel are provided for assembling and organizing it. It can also be ascribed in part, at least, to the fact that it has been under the same direction during the 30 years of its operation and that in the beginning the desirability of a comprehensive coverage was foreseen and facilities were provided for making it.

The records of livestock movements in Canada cover only livestock going through the 12 stockyards markets and direct to packers, with the exception of the direct movement of livestock for export (livestock that does not originate at a stockyards market or pass through a market en route to the United States). Weekly records of such export movements are compiled from reports made by the Health of Animals Service inspectors, based on the inspection or testing certificates which must be made out for and accompany all livestock billed to points in the United States. All inspectors wire a report each week to the Market Information Office in Ottawa giving the number of head inspected (or tested) by species and classes for the week. The total movement and the number not going through stockyards are separately reported. These weekly totals do not entirely agree with totals reported by port-of-exit offices, since some animals certified may be diverted later to other destinations.

Records are not obtained of stocker or breeding livestock shipped from one province to another and not moving through a stockyards market. There are no provincial sanitary regulations covering the movement of stocker, feeder, or breeder animals into one province from another similar to those maintained by most of the states in the United States. Most interprovincial movement, however, is from the Prairie Provinces to eastern Canada, largely to Ontario. All of this movement is by rail, and all such rail shipments pass through the St. Boniface Yards at Winnipeg. Records of province origin and stations

and province of destination are obtained at this point and are sent to Ottawa and included in the records of monthly movements.

The utility of such detailed marketing data would seem to be for making studies of livestock production by counties and areas, for indicating changes in numbers for such areas in inter-census years, and for making estimates of cash receipts and gross income from livestock by areas. They could also be very useful in making estimates of cattle and of sheep on feed for market at different dates in the year and for checking these estimates later. Such detail is not needed for making studies of the over-all livestock situation for Canada as a whole or hardly for the over-all situation in the different provinces.

FOREIGN TRADE IN LIVESTOCK AND MEATS

As already stated the production of livestock in Canada over the years has been devoted primarily to furnishing a supply of meat that would be taken by Canadian consumers at prices making the production of livestock relatively advantageous. Thus most of the livestock marketed from farms has been slaughtered in Canada, and the meat from this slaughter has been consumed largely in Canada. However, Canada has always exported some live animals and meats, and in some years exports have amounted to a substantial proportion of the total number marketed and of the total meat produced.

Since 1900, the largest exports took place during the war and postwar years of the two World Wars. The efforts of Canadian agriculture during these war periods were directed to increasing production of food for shipment principally to Britain, for use of the military and civilians, and for supplying the Canadian armed forces abroad. During both war periods the largest increases in meat exports were in hog products. Shipments of beef increased somewhat during the 1915-20 period and increased to relatively large quantities in the years 1944 to 1949.

During both war periods cattle numbers in Canada increased markedly, and commercial slaughter of cattle also increased. Some of the meat from this increased slaughter was exported to Britain, but the greater part was consumed in Canada, and the per capita consumption of beef increased. During World War I, shipments of cattle to the United States increased greatly and in 1919 reached a record total of over 1/2 million head. During much of the recent war period, shipments to the United States were limited by an embargo from 1943 until August 1948 on shipments of cattle other than breeding and dairy cattle. The record slaughter during this period was accompanied by large exports of beef to Britain until the embargo on shipments to the United States was lifted, and since then practically all exports have been to the United States.

During World War I hog numbers in Canada changed little, and inspected slaughter of hogs decreased. Exports were expanded at the expense of domestic supplies, and per capita consumption of pork declined, although increased imports from the United States added to the domestic supply. Hog production increased enormously during World War II and was accompanied by a corresponding increase in inspected slaughter. Total production of pork was therefore large enough to bring about an increase in per capita consumption, despite the very large exports of products to Britain.

Most of Canada's foreign trade in sheep, has been in live animals. During the last decade of the 19th century and the first decade of this century exports of sheep were relatively large. In the main, these went to the United States, although in some years there were fairly large shipments to Britain. After 1910, shipments of sheep to Britain ended, and those to the United States fell to a small volume. From 1918 to 1922 and again in 1944 and 1945 shipments to the United States were fairly large. In the early years of World War II there were considerable imports of mutton and lamb from Australia and New Zealand, and sizable exports to Britian in 1945-47.

In the 20 years from 1890 to 1910 the United States was both a rather large exporter of sheep to Great Britain and a large importer of Canadian sheep; and in most of these years imports exceeded the exports.

The Bacon-Type Hog

The only livestock production that has been undertaken in Canada for the express purpose of supplying an export outlet for meat is the development of a bacon-type hog that would produce Wiltshire sides for the British market comparable with those that Britain imported in large quantities from Denmark. During World War I the large shipments to Britain did not meet with quality competition from Danish pork since the war reduced hog production in Denmark and exports to Britain were largely eliminated. But, as Danish production expanded after 1920 and large exports to Britain were resumed, the Canadian export trade was faced with the fact that the Danish sides were preferred by the British consumer, and Canadian sides sold at a sharp disccunt under Danish and similar sides.

To remedy the situation the animal husbandry and packing interest initiated a program for developing a type of hog and processing Wiltshire sides that would give a product comparable to the Danish. To this end, live grading of hogs and bonus payment for acceptable bacon-type hogs were inaugurated.

Carcass grading. Since the inauguration of compulsory carcass grading and the accompanying shift to sale at carcass prices, the top grades of hogs have been A and B bacon hogs. The Canadian Government has subsidized the production of such hogs by paying the producers a head bonus (at present $2 and $1), and in recent years has subsidized the export of the sides from such hogs by paying the Canadian packer one price and selling the export sides to the British Ministry of Food at a lower price. The buying prices have been established by 1 year contracts under which the British agree to buy up to an established maximum weight over the 12-month period at the fixed price. However, the Canadian Meat Board, which handles the purchase of export sides, does not agree to furnish this maximum quantity, and the contract quantities have not been furnished in the last 3 years. The effect of this established price is to put a floor under Canadian hog prices to the extent that the export shipments reduce domestic supplies to a quantity that can be sold at the equivalent of the export price.

The 1941 embargo. An embargo on shipments of live hogs and fresh pork to the United States was in effect from 1941 until the end of 1950. The embargo covered canned and processed products until 1948. Since then considerable shipments of luxury products such as "Canadian bacon" (cured, boned, fat-trimmed backs) and canned hams have been made to the United States.

Trends in export trade. With free movement of hogs and products again permitted between Canada and the United States, except for respective sanitary regulations and tariffs (at present 1 cent a pound on live hogs, 1 1/4 cents on fresh pork, and 2 cents on cured pork), the tendency will be for the changes in prices of hogs and products in the two countries to be closely related. One effect of this will be to make the Canadian price schedules for different grades of hogs less rigid than they have been in recent years. There is no premium market in the United States for bacon sides or other cuts from the type of carcass from which export Wiltshire sides are processed, nor does the Canadian domestic market seem to show the price discrimmination for weight and finish that is evidenced in the selection of export Wiltshires. For the domestic market, carcasses are cut and cured much the same as in the United States market. There is, however, no extensive outlet for products from heavy butcher hogs and "packing" sows such as exists in some areas of the United States.

If the overseas export market for Canadian hog products continues to shrink and there is no longer a preferential outlet in the British market, considerable movement might develop between Canada and the United States, particularly in years when production is relatively large in one country and small in the other. With hog production definitely on the increase in the United States and with indications of some expansion in Canada it may well be that the joint production in the two countries will be large enough that the resulting price structures will be such that the prevailing tariffs will tend to limit movement across the line of both live hogs and products.

It may be that in the long run the United States, rather than Britain, will be the best outlet for surplus Canadian hog products. If there is a reasonable expectation that such a situation will develop it might be well worthwhile for the Canadian industry to try to build up a specialty demand in the United States for the products from the type of hogs that have shown themselves best suited to production conditions in Canada.

Foreign Trade in Cattle

Tables 21, 22, and 23 show the exports of live animals from Canada by years, with numbers going to the United States shown separately. Table 21 shows, for the years 1900 to 1950, the exports of cattle and calves and beef and veal from Canada, the duties on live cattle into the United States, and the prices of good grade steers at Chicago and Toronto, the leading cattle markets in the respective countries. The changing United States duties on live cattle appear to have influenced this movement considerably. From 1900 to 1913, when the United States tariff was $10.00 a head on cattle over 1 year old, the difference between the Toronto and Chicago average prices on good steers was around $1.00 per 100 pounds, or about $10.00 a head on a 1,000-pound steer; exports to the United States were small but sizable shipments were made to Great Britain. During the period 1913

to 1921 when there was no duty, the relative, and to some extent the actual, spread narrowed; exports to the United States increased substantially, while those to Great Britain dropped to a very low level. With the imposition of the Fordney-McCumber tariff rates of 2 cents and 1½ cents a pound in 1922, the price spread increased to between 2 and 3 cents a pound, and exports to the United States declined. In the depression years of the 1930's, when tariff rates were increased to 3 and 2½ cents, exports almost ceased. With the reduction of the tariff by various agreements and the modification of other restrictions, such as quotas, Canadian exports to the United States increased, but the price spread was relatively wide. The imposition of the embargo on shipments of slaughter and feeder cattle to the United States in 1943 caused exports to decline again, and the price spread became the widest ever known, both relatively and absolutely. With the removal of the embargo in mid-1948 exports to the United States increased, and the price spread narrowed. The devaluation of the Canadian dollar in September 1949 further reduced the spread, and prices in the two markets almost reached equality by the summer of 1950. Toronto prices declined after the removal of exchange controls in September 1950, while Chicago prices changed little.

Cattle shipped from Canada to the United States are of four general classes: (1) dairy cows and heifers, (2) purebred breeding stock, (3) cattle for immediate slaughter, and (4) stocker and feeder cattle. In addition, there are considerable shipments of calves (under 200 pounds) mostly going for slaughter. The second class has generally been duty free, and the first and second were not covered by the 1943-48 embargo against shipments to the United States.

The methods by which this trade in live cattle are carried on differ considerably as among these classes, but in general United States buyers seek cattle in Canada. This buying for shipment to the United States is done largely through orders given to dealers in Canada to buy specific kinds of cattle either on the markets in Canada or at country points, but frequently the United States buyer is present and sees the cattle bought. In the case of breeding cattle, however, the dealing is apt to be directly between the United States buyer and the Canadian grower. In the case of dairy cattle much trading is done between United States buyers, both country dealers and dairy operators, and dealers in Canada who buy dairy cattle for resale. Slaughter cattle are largely bought at the Canadian markets on orders from packers in the United States. Such cattle are specifically invoiced as cattle for immediate slaughter and as such are not subject to tuberculosis or other health tests, but the cars or trucks are sealed upon entry into the United States and must be delivered to United States packers operating under federal inspection. Some slaughter cattle are shipped from feedlots in Ontario to public markets in the United States by feeders or drovers for sale on consignment, and some are shipped direct to United States packers.

Most of the stocker and feeder cattle shipped to the United States originate in the Prairie Provinces, and nearly all of them are bought either at markets located in the area or at country points. Some commission firms at the markets in the three provinces are directly connected with commission firms at some United States markets, notably South St. Paul and Sioux City, and others have trading ties with firms in these United States markets. Some cattle are bought by traders operating on United States markets for shipment to these markets for resale. These purchases are made mostly on orders to commission firms in Canada.

During the last 3 years of heavy shipment to the United States there has been some speculative buying by traders at Canadian markets for shipment for resale at United States markets. A relatively large number of stocker and feeder cattle are shipped direct from country points in the three provinces to cattle feeders and producers and to country dealers in the United States. These cattle are bought mostly on orders to Canadian dealers, but some are bought directly from growers by United States buyers.

All cattle shipped into the United States from Canada are subject to the inspection and testing regulations established by the Inspection and Quarantine Division of the Federal Bureau of Animal Industry. This division maintains offices at all ports of entry into the United States from Canada, and no cattle are permitted entry until the requirements for the different kinds have been complied with. The Bureau of Animal Industry in the United States and the Health of Animals Service in Canada have an arrangement covering reciprocal acceptance of certificates of inspection and tests. All cattle for entry into the United States must have a Canadian health certificate issued by an accredited veterinarian and indorsed by a Health of Animals official. All animals, except cattle for immediate slaughter, are subject to a 3-day test for tuberculosis and must have a certificate of test. Dairy and breeding animals must have tests for brucellosis and longer tests for tuberculosis, unless they come from a certified tuberculosis-free area or were vaccinated for brucellosis as calves.

The Bureau of Animal Industry has recently completed a tabulation of cattle imports from Canada by ports of entry and kinds of cattle. In Table 24 these records have been consolidated into state totals. Records are available showing the receipts of Canadian cattle at a number of public stockyards in the United States, which cover both cattle for sale and those stopping in transit. The yearly totals for these markets for the years 1944-49 were, in thousands of head, 6.9, 8.1, 9.6, 9.9, 150.6, and 146.3, respectively.

Foreign Trade in Meats

Trade in meats between Canada and the United States, unlike trade in livestock, is usually initiated by the Canadian exporter. Sales of fresh meats, particularly beef, are usually negotiated by wire with wholesale meat dealers in the United States cities, and the price is agreed upon. Occasionally lots will be forwarded to wholesalers in the United States for sale on a fee basis. One of the large packers maintains a branch office in New York for sales in that area, but in other cities distribution is through wholesale dealers. Swift Canadian Company uses the Swift organization for distribution in the United States. Trade is on an offer basis from Canadian plants, and the United States organization either effects a sale as a broker or buys outright for its own distribution. There is little outlet in Canada for heavy beef, (over 700 pounds carcass weight) especially when highly finished, and since the embargo was lifted most of this goes to the United States. Since Canadian red and blue brand grades of beef do not correspond with any United States official grades, sales by distributors in the United States cannot be made in terms of United States grades. They must be made on description or inspection, and little of this beef is sold to retail stores in the United States. Since the lifting of the embargo there has been a large movement of boneless beef from low grade cows and from bologna-type bulls to the United States for use by sausage makers. Some of this beef is

from cattle bought at Canadian markets for United States packers and slaughtered in Canada on a fee basis.

Canadian bacon and canned hams made by small packers usually are sold in the United States under agency agreements with wholesale distributors who cater to the high-class retail and delicatessen trade. Bacon sides, hams, and other cured cuts are prepared largely after the methods prevailing in the United States. Apparently no effort has been made to develop a market in the United States for the short cure, mild smoke products that the British market gets from Wiltshire sides imported from Canada and Denmark, although the dominant Canadian-type hogs are best suited for such products. The products from these hogs, cut and cured according to United States practice, probably would have little preferential demand in United States trade.

ECONOMIC ASPECTS OF CANADIAN LIVESTOCK INDUSTRY

The function of the livestock industry in the over-all agricultural economy of Canada is to utilize feed resources that can only be utilized by livestock and to produce the highest returns for feeds for which there are alternative uses. The feeds that can only be utilized by livestock are grass and forage from pastures and ranges, hay and other roughages, and certain by-products from processing. In terms of acreage these represent a large part of total resources. Feeds that have alternative uses are feed grains, by-products of food grain processing and low-grade food grains. The alternative uses for these are export outlets or long-period storage.

The kinds of meat animals that can utilize the feed from pastures and meadows are cattle and sheep. These feed are also used by horses, but horses are kept largely as sources of power rather than for production for sale, and the feed used by them is a farm production cost rather than a factor in an income-producing activity. The meat animals that utilize feeds with alternative uses are hogs and grain-finished cattle and lambs; to these should be added cows which are milked and poultry.

Cattle and Sheep

The problem facing producers of cattle and sheep as a group is not one of producing a maximum number of animals but of adjusting the number and output to a volume that can be disposed of at prices comparable with those for other agricultural products. Students of livestock production in Canada generally agree that the number of cattle could be increased to 15 million head and sheep to 4 million head if practically-demonstrated methods of pasture and meadow improvement were adopted, if land that is poorly suited for wheat production were returned to grass, and if irrigation water resources were fully developed. The maximum number of cattle reached in Canada was 10.8 million in 1945 and of sheep 3.7 million in 1944.

The principal market outlets for cattle and sheep as live animals are slaughter in Canada and export to the United States. The outlets for beef and veal and mutton and lamb are consumption in Canada and export. The United States is the most readily available export market and for the present and the near future it appears to be the principal, if not the sole, export outlet

for these animals and products. Obviously, then, the producers of cattle and sheep in Canada are vitally interested in the future situation as regards the terms under which these products can be shipped to the United States.

Since the removal of the embargo on shipments to the United States in 1948 and the devaluation of the Canadian dollar in September 1949 the market in the United States for Canadian cattle and beef has been practically a free market. The prevailing duties, which are cents per pound and not ad valorem, are low in relation to the high prices of cattle and beef in the United States. The devaluation of 10 percent not only offset the duty, but also most of the costs of moving cattle to United States markets, and prices for some classes of cattle in Canada in Canadian dollars advanced to levels as high as or higher than prices in the United States in comparable positions in United States dollars. When exchange control was removed in October 1950 and the value of the Canadian dollar rose, a part of this advantage was lost.

The movement of cattle and calves and beef and veal between the two countries will probably continue to be in one direction -- southward. It hardly seems likely that in the foreseeable future the demand for beef in Canada will be sufficiently strong to result in prices of cattle and beef enough higher than those across the border to induce a volume movement of cattle or beef from the United States.

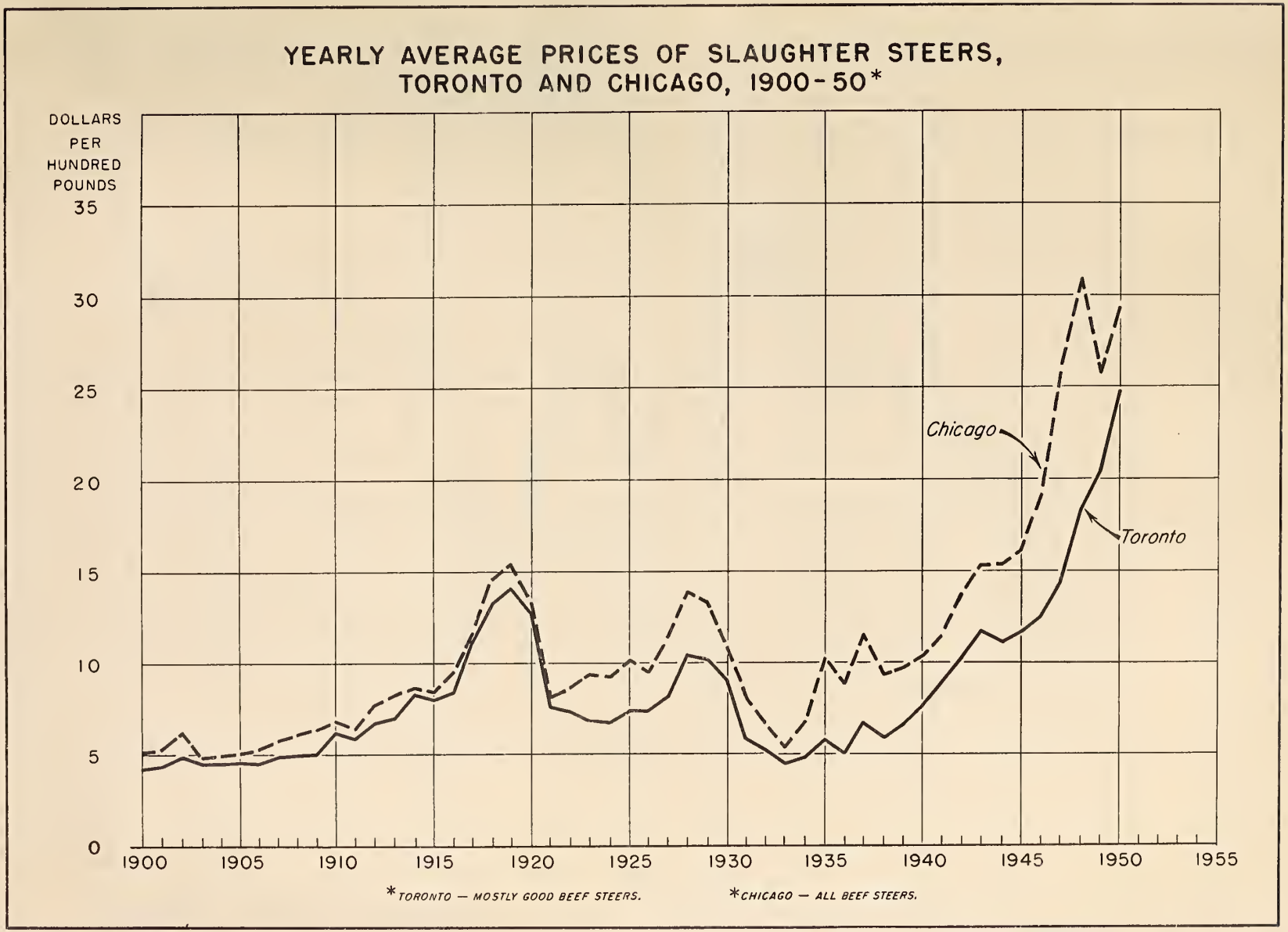
During 7 (1935-41) of the last 20 years, Canada was a net importer of beef, but the imports were largely canned beef from South America with some fresh frozen from Australia and New Zealand. The only imports of live cattle were small numbers of breeding cattle.

There are limited areas and special conditions generally where sheep can make the most efficient use of available feed supplies. With the present high prices of lambs and wool, it is to be expected that sheep numbers will tend to increase in these situations.

Both Canada and the United States import much of the apparel wool used by their respective woolen industries. Thus in each country the price of domestically-produced wool tends to be determined by the duty-paid, landed costs of foreign wools. And since both countries buy their foreign supplies in the same markets and have much the same landed costs, the respective wool duties tend to restrict the movement of apparel wools. In the case of duty-free wools (called carpet wools in the United States), there is some movement from Canada to the United States, both of locally-produced and imported wools.

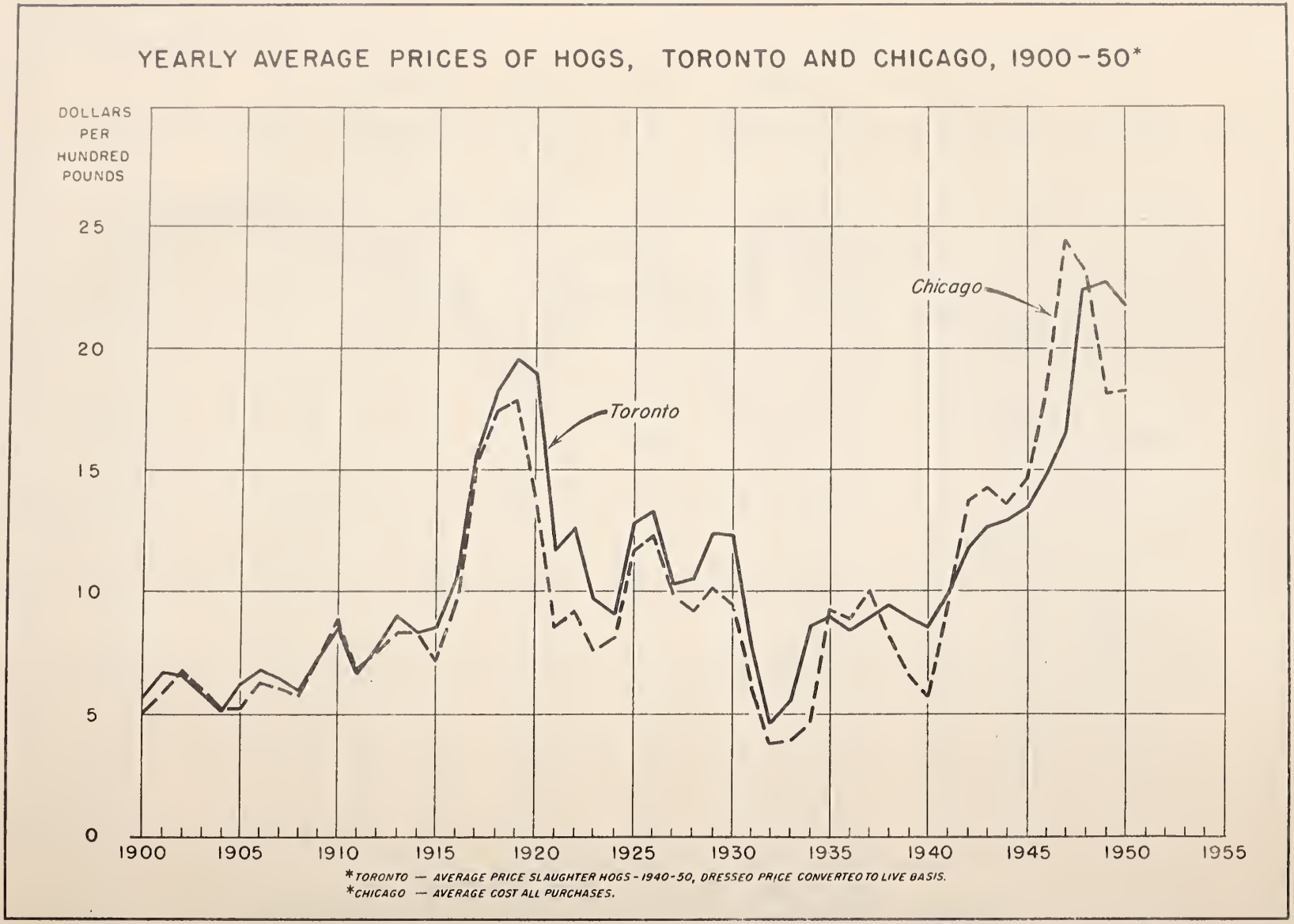
Hogs

The big problem facing hog producers and to a lesser degree producers of feed grains is whether an outlet can be found for a volume of hog products at prices that will give a return over and above the cost of feeds sufficiently large to justify the labor and risk involved. Feed grain producers, as individuals, are concerned as to whether they can obtain a larger return by feeding their grain to hogs or other livestock or by selling it.



U S DEPARTMENT OF AGRICULTURE NEG 1671 OFFICE OF FOREIGN AGRICULTURAL RELATIONS

Figure 9.



U S DEPARTMENT OF AGRICULTURE NEG. 1669 OFFICE OF FOREIGN AGRICULTURAL RELATIONS

Figure 10.

As a group, they are concerned as to whether the export outlet will take quantities above what will be utilized domestically at prices that will result in an over-all price comparable with prices of other products. If there is no such export outlet immediately available, they have the alternative of storing their grain indefinitely, awaiting a more favorable market.

From 1932, when the Ottawa agreement between Canada and Britain was made, until the end of 1950 Canadian hog products have had a preferred position in the British bacon trade. Under this agreement Canada was given an annual quota of 280 million pounds of bacon (Wiltshire sides), which was more than had ever been shipped to Britain in any year up to that time -- 1919 being the high year with 243 million. Canadian products also had the benefit of the relatively high prices in Britain resulting from the quota limitations on total imports. Not until 1940, however, did exports from Canada to Britain reach the quota. During the war years 1940-45 hog production and slaughter exceeded all previous years. Exports of bacon to Britain increased each year to reach a peak of 696 million pounds in 1944, and at the same time per capita consumption of pork in Canada surpassed all previous records. During these years and through 1950, exports of live hogs and fresh pork to the United States were prohibited, but exports of cured or processed pork have been permitted since 1948.

For the past 3 years bacon exports to Britain have been on a contract basis. Britain agreed to buy up to established maximum quantities each year at a set price, and these quantities and prices were established in new contracts each year. In no year, however, did the actual exports to Britain reach the quota, even the small quota for 1950. It had been announced that the 1950 contract would be the last, and that henceforth Britain would import no bacon from Canada. But late in 1950 the British Government made an offer for a new contract to cover 1951.

Although there are material differences between Canada and the United States in the methods of production and in the type of hogs produced, the factors that influence changes in production seem to have been much the same in the two countries, and changes in numbers of hogs and changes in slaughter have been quite similar. The changes in the prices of hogs in the two countries during the past 50 years have also been similar in general movement, although there have been some periods when the direction of change was dissimilar (see Figure 10). A notable exception is the period from 1935 to 1940, when exports to Britain seem to have given material support to Canadian hog prices. A similar situation was evident in 1949 and the first half of 1950, although devaluation of the Canadian dollar was also a factor. If the export outlet to Britain is closed, it is fairly certain that prices of hogs in Canada and in the United States will move closely together.

The elimination of restrictions on movements of hogs and hog products between the two countries, except for the respective sanitary regulations and tariffs (1 cent a pound on hogs and 1 1/2 cents on products), will probably encourage a considerable movement both ways during the year as packers in the two countries seek the best market for different products.

Prices for hogs and hog products at markets in the Pacific Coast states of the United States are generally higher than at Corn Belt markets, since the coast is a deficit producer of hogs. Surplus hogs or hog products from the Prairie Provinces will tend to move into this area, and should compete favorably, as the coast markets have a distinct preference for lightweight butcher hogs. The movement will probably be of dressed rather than of live hogs or cured products since a large part of the hogs slaughtered on the coast go into the fresh meat trade. On the other hand, certain cuts such as lightweight shoulders and picnics, may be shipped from the United States to eastern Canada whenever the prices in Canada are relatively higher. Canadian bacon and canned hams may continue to be exported to the United States as specialty products.

If hog prices continue at levels comparable to those of 1949 and 1950, the present tariff rates will have a relatively minor effect on the movement between the two countries. As long as the Canadian dollar is at a discount in the exchange market up to 5 percent this discount will about offset the United States tariffs and put Canadian hog prices in Canadian dollars on a parity with United States prices in United States dollars. At the same time, it will supplement the Canadian tariff in discouraging shipments from the United States.

Prices, Consumer Incomes, and Expenditures for Meat

In the United States the principal factors determining the prices of meat animals are the expendible incomes of consumers available for purchase of meat and meat products and the total live weight of animals slaughtered. In Canada these are influential factors, but, in the absence of quantity limitations on exports of live animals or meats to the United States, the level of livestock prices in the United States seems to be the controlling factor. For the 24 years (1926-49) for which estimates of consumers' annual expendible incomes are available for both countries, the changes and trends have been very similar, with such incomes per capita in Canada, in Canadian dollars, averaging about two-thirds of those in the United States in United States dollars. During the depression years of the 1930's, however, per capita incomes in Canada did not decline so much relatively as did those in the United States.

Estimates of per capita consumption of meats in Canada comparable to those for recent years are only available back to 1935. For this period, the total per capita consumption in Canada of beef, veal, pork, lamb and mutton on a yearly basis was below that in the United States. The actual differences in consumption of particular meats are not so large as those indicated in Table 20 as canned meat is shown as a separate figure in the Canadian estimates but is included under the different classes in the United States figures. These per capita canned meat figures in Canada ranged from 1.1 to 2.4 pounds over this period.

On the basis of estimated per capita consumption and computed annual retail prices of the four classes of meats derived from Bureau of Labor Statistics reported retail prices, the per capita equivalent of the total retail value of meat consumed in the United States has been computed and the percentages of these per capita values to total per capita expenditures

have been derived. These and other data are shown for the years 1926 to 1949 in Table 25. In the same table are shown similar figures for Canada for the years 1935 to 1949. Since there are no available figures for Canada for average retail prices of meats or consumers' expenditures for meats, a series was derived from available information on wholesale value of meat sold by slaughtering and meat packing plants in Canada compiled annually by the Department of Trade and Commerce of the Dominion Bureau of Statistics. The steps used in making these estimates are shown in Appendix I.

In the war period from 1942 to 1946 total per capita expenditures did not increase so rapidly in Canada as in the United States, and the percentage of Canadian to United States expenditures declined. During these years the per capita expenditures for meat advanced in Canada but changed little in the United States, and the Canadian expenditures rose from 83 percent of those in the United States in 1942 to 100 percent in 1945. From 1946 to 1948 the rise in per capita expenditures for meat was greater in the United States, and Canadian expenditures in 1947 dropped to 60 percent of those in the United States. In the years from 1937 to 1941 the percentage of expenditures for meat to total expenditures was not greatly different in the two countries, but after 1941 this percentage increased in Canada and declined in the United States. While meat rationing and price control were in effect, per capita expenditures for meat changed little in either country although incomes were increasing. With the removal of controls in 1946, the meat expenditures increased markedly in both countries, and the percentages of expenditures for meat also advanced. The most striking difference, however, is that in 1949 the percentage spent in the United States was back to about the prewar average while in Canada it was nearly 40 percent above the prewar average. In view of the further sharp advance in beef, veal, and lamb prices in 1950, it is quite probable that the total per capita expenditures in both countries increased above those of 1949, but the percentage of income may have changed little.

The high expenditures for meat in Canada during the war years were a result largely of the increased pounds per capita, since average prices did not change much from 1943 to 1946. The further sharp advances in 1947-49, however, were a result of the higher prices, as the per capita consumption was decreasing. In 1949 the percentage expenditure in the United States was lower than in 1948, while in Canada it was substantially higher. In Canada, the average prices of all livestock and meats were higher in 1949 than in 1948, while in the United States all prices were down except for lambs, which averaged little higher. Several factors were responsible for this divergence in price movements. The opening of United States markets to Canadian cattle and beef and veal caused prices to rise in Canada, while in the United States prices declined. During the last 3 months of 1949 the devaluation of the Canadian dollar was an added influence in narrowing the spread between prices in the two countries. At the same time, the prices for Wiltshire sides under the British import agreement and a 9 percent decrease in inspected slaughter held Canadian hog prices to a little higher average than in the previous years.

If Table 25 is fairly dependable as indicating consumer per capita expenditures for meat and the relationship of these expenditures to total per capita expenditures in the two countries, these figures point to possible development of considerable interest to the future of the livestock industry in Canada. In the prewar period (1935-39), per capita expenditures and per capita expenditures for meat in Canada had about the same relationship to corresponding figures in the United States, averaging 66 percent and

62 percent, respectively. In 1949, although per capita expenditures in Canada were near the prewar relationship with those of the United States - 68 percent, expenditures for meat were 87 percent. The 1949 relationship was probably maintained in 1950.

Is it probable that Canadian consumers will continue to pay this relatively larger proportion of their incomes for meat? And if not, how can the expenditure be reduced? It hardly seems likely that the spending of such relatively larger percentages of their incomes for meat has been long enough maintained to have tended to establish a new pattern of spending distribution by Canadian consumers. With most other items of consumer goods plantifully available, a return toward the prewar distribution of expenditures is rather to be expected, somewhat similar to that in the United States. If the meat from all livestock produced in Canada were consumed in Canada, any material increase in livestock slaughter and resulting meat supplies from increased production would probably result in sufficiently lower prices that consumers would get more meat for less money. But since there is now a readily available outlet for meat animals and meats from Canada in the United States, the prices of both will be determined largely by prices in the United States and not by demand from Canadian consumers. Thus, Canadian consumers are faced with competition for their meat supply from a consuming population over 10 times as large and with per capita incomes a third higher.

In view of this situation any considerable reduction in per capita expenditures for meat in Canada will have to come from a cut in meat per capita. If in 1949 expenditures for meat had been only 6 percent of expenditures, and prices had been about the same, the per capita meat consumption would only have been about 101 pounds, compared to the present estimate of 128 pounds. This reduction of 27 pounds per person would have been equal to a total reduction of about 365 million pounds. If all of this should have moved to the United States (actually the embargo on shipments of hogs and fresh pork would have prevented this) it would have increased the per capita supply in the United States by about 2 1/2 pounds or less than 2 percent. To the extent that this increased supply in the United States would have reduced prices first in the United States, and subsequently in Canada, the same per capita expenditures would have obtained more meat which in turn would have cut down export from Canada. In view of the uncertain reactions of supplies on prices and prices on supplies, an approximation of the probable net effects is of doubtful utility.

The purpose of this rather detailed discussion is to point out in specific, if not entirely accurate, detail the probable effects of an uncontrolled movement of livestock and meats between Canada and the United States. As before described the respective tariffs on livestock and meats at the present high level of prices offer little protection to the livestock industry, especially to the cattle and sheep producers in the United States or to the meat consumers of Canada. The exchange discount of the Canadian dollar works also to the disadvantage of the Canadian consumer. Under conditions as of late 1950, it is doubtful if the respective tariffs changed prices or movements in any substantial degree from what they would have been without the tariffs. And this situation will probably continue so long as there are no quantity restrictions to prevent the free movement.

APPENDIX I

Retail Value of Per Capita Consumption

There is no available series of estimates giving the value of per capita consumption of meat in Canada or over-all average retail prices of meats. The available information on retail prices of meats covers only certain cuts at selected cities. The cuts include all of the highest priced ones and few of the cheap cuts. For 1930 and 1941 the Census of Merchandising published figures of total dollar sales of meats, including fish, by meat stores and other stores. In National Accounts, Income and Expenditures, 1926-37, it is stated (page IV, appendix) that estimates of personal expenditures for goods are based largely on retail sales as reported in 1930 and 1941 and that "the total value of personal expenditures on goods is adjusted upwards to allow for underestimation in the census reports." No indication as to the size of these adjustments is given. Computations based upon the reported sales by wholesale slaughterers in 1941, and estimates of retail slaughter and reported exports of meats in that year, indicate that the 1941 census figure of $190 million was short by at least 25 percent, making no correction for the value of fish that may have been included.

In trying to arrive at figures of retail prices for Canada that would be reasonably comparable with those for the United States, two approaches were used. One was from the reported retail prices, using both those for Toronto and the simple average for 9 cities; the other was using the computed average price of all meats sold at wholesale to arrive at an average wholesale price of all meats sold. This wholesale price was adjusted to an average retail price by allowing a constant retail mark-up of 30 percent.

In using the yearly average retail prices of selected cuts of meat at Toronto and the average of 9 cities, a simple average of the prices reported for several cuts was used as the price for that kind of meat. In the case of veal and lamb, only one retail price was reported. The estimated per capita consumption of each kind of meat was multiplied by the price for that meat and the sum of the products gave the value of per capita consumption at retail prices. This sum divided by the per capita consumption of all meats gave an indicated retail price of all meats. These computations were made for the years 1939-48.

In using the reports on pounds and dollars of meat sold by wholesale slaughterers the sum of the pounds sold was divided into the sum of the dollar value. The quotient was the average wholesale price of all meats sold. This average price was increased by 30 percent to get an indicated retail equivalent average retail price. Total per capita consumption was multiplied by this average retail price and the product was taken as the value of per capita consumption of meat. The total per capita used did not include canned meats nor edible offal. These computations were made for the years 1935-49, the period for which comparable estimates of per capita consumption in Canada are available.

In order to test these different results, comparisons were made with various prices and price relationships as reported for the United States. These included the average live price of livestock bought by wholesale slaughterers, the average dressed cost, and the relationship between average dressed costs and average retail prices. The conclusion from these various comparisons was that the indicated retail price of all meats derived from the wholesale prices gave a series most nearly approaching the actual average prices paid in Canada, and it is the series used. The principal weakness of this series is that it assumes that meat is consumed in Canada in the same relative quantities as it is produced in wholesale plants and that the retail mark-up is constant at 30 percent of wholesale cost. It has the advantage of being based upon actual prices that are comparable over the years used. Hence if the derived average prices are at some variance from actual prices this variance is probably constant over the years.

Tables A-D show some of the figures and comparisons made.

Table A. - Canada and the United States: Average Retail Prices of All Meats

Year	Canada - (Based on)						United States	
	Toronto		9 cities		Wholesale price		Reported by U.S. Dept. of Agr.	
	Can$	Index	Can$	Index	Can$	Index	US$	Index
1939	23.0	100	20.4	100	17.5	100	24.6	100
1940	24.5	107	22.1	108	18.6	106	22.9	93
1941	28.0	122	25.9	122	20.1	115	26.8	109
1942	31.5	137	28.3	139	24.5	140	31.4	127
1943	35.1	152	33.0	162	27.0	154	31.9	133
1944	35.2	153	33.8	166	28.0	160	30.2	122
1945	35.0	151	33.8	166	28.8	165	30.2	122
1946	37.1	161	35.9	176	29.0	166	38.4	156
1947	41.7	181	39.7	195	33.6	192	55.4	225
1948	53.8	234	51.4	252	43.8	250	62.0	252
1949					48.4	277	56.0	227

Table B. - Canada and the United States: Value of Per Capita Consumption at Retail Prices

Year	Canada (Based on)						United States	
	Retail prices at Toronto		Retail prices at 9 cities		Wholesale prices		Estimates U.S. Dept. of Agricul.	
	Can$	Index	Can$	Index	Can$	Index	US$	Index
1939	24.21	100	21.86	100	18.80	100	28.40	100
1940	28.00	116	25.28	116	21.40	114	28.40	100
1941	33.59	139	31.26	143	24.20	128	33.30	117
1942	40.76	168	36.60	167	31.50	167	37.90	133
1943	50.83	210	47.90	219	39.20	208	40.80	144
1944	50.45	209	44.58	204	40.15	214	40.70	144
1945	46.02	184	44.44	202	37.60	200	37.90	133
1946	49.65	205	48.04	220	38.80	206	51.40	181
1947	55.63	230	52.82	242	44.60	237	75.34	265
1948	67.62	279	64.60	295	55.10	294	78.88	278
1949	-	-	-	-	62.00	327	70.74	249

Table C. - Canada and the United States: Average Livestock Wholesale Costs and Prices

Year	Average dressed cost of livestock to wholesale slaughterers		Average wholesale (Canada) sales price	
	United States	Canada	Canada	
	U.S. cents per lb.	Can. cents per lb.	Can. cents	Percent of wholesale cost
1935	12.8	9.3	11.7	126
1936	12.9	9.2	11.5	125
1937	14.2	10.3	12.6	122
1938	12.2	10.7	13.3	124
1939	11.4	11.1	13.5	122
1940	10.8	11.4	14.3	125
1941	14.7	12.9	15.5	120
1942	19.5	15.6	18.9	122
1943	20.5	17.2	20.7	120
1944	19.6	16.7	21.5	129
1945	21.7	17.7	22.2	126
1946	25.9	19.8	22.3	113
1947	34.7	21.8	25.9	119
1948	37.5	29.5	33.8	115
1949	31.0	31.0	37.2	120

Table D. Canada and the United States: Per Capita Consumption of Meat

Year	Retail value of per capita consumption as percentage of total consumer expenditures		Per capita consumption		
			Canada		United States
	Canada	United States	Incl. canned	Excl. canned	Including canned
	Percent	Percent	Pounds	Pounds	Pounds
1935	5.5	6.4	110.4	108.7	116.7
1936	5.4	6.1	114.3	112.3	129.8
1937	5.6	6.0	116.6	114.6	125.4
1938	5.7	5.7	112.3	110.6	126.2
1939	5.5	5.6	109.5	107.4	132.8
1940	5.6	5.2	116.0	114.5	141.7
1941	5.5	5.4	123.8	120.6	142.8
1942	6.4	5.6	132.3	129.2	139.5
1943	7.9	5.5	148.2	145.1	146.0
1944	7.4	5.1	146.5	143.7	153.5
1945	6.6	4.3	136.2	131.4	144.4
1946	6.1	5.0	139.7	133.8	153.4
1947	6.2	6.6	139.0	133.4	155.0
1948	7.0	6.5	129.3	125.8	145.4
1949	7.6	6.0	133.0	127.9	143.4
1950	-	-	-	123.0	-

APPENDIX II

Statistical Tables

1. Cattle and Calves: Output in Relation to Inventory Numbers, Canada and the United States, 1930-50

2. All Cattle: Number and Index, Canada, U.S. Border States, and United States Total, 1901 and 1910-50

3. All Cattle: Number and Index, by Canadian Provinces and U. S. Border States, 1901 and 1910-50

4. All Cattle: Value per Head, Canada, U.S. Border States, and United States, Total, 1901 and 1910-50

5. All Cattle: Value per Head, by Canadian Provinces and U.S. Border States, 1901 and 1910-50

6. Milk Cows: Number and Index, Canada, U.S. Border States, and United States Total, 1901 and 1910-50

7. Milk Cows: Number and Index, by Canadian Provinces and U.S. Border States, 1901 and 1910-50

8. Milk Cows: Value per Head, Canada, U.S. Border States, and United States Total, 1901 and 1910-50

9. Milk Cows: Value per Head, by Canadian Provinces and U.S. Border States, 1901 and 1910-50

10. Hogs: Number and Index, Canada, U.S. Border States, and United States Total, 1901 and 1910-50

11. Hogs: Number and Index, by Canadian Provinces and U.S. Border States, 1901 and 1910-50

12. Pig Crops: Number and Index, Canada and the United States, 1935-50

13. Sheep: Number and Index, Canada, U.S. Border States, and United States Total, 1901 and 1910-50

14. Sheep: Number and Index, by Canadian Provinces and U.S. Border States, 1901 and 1910-50

15. Horses: Number and Index, Canada, U.S. Border States, and United States Total, 1901 and 1910-50

16. Horses: Number and Index, by Canadian Provinces and U.S. Border States, 1901 and 1910-50

17. Horses: Value per Head, Canada, U.S. Border States and United States Total, 1901 and 1910-50

18. Horses: Value per Head, by Canadian Procinces and U.S. Border States, 1901 and 1910-50

19. Animal Units: Number and Index, Canada and the United States, 1901, 1906, 1910, and 1915-50

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28. Wheat: Acreage and Yield, by Canadian Provinces and Adjoining U.S. Border States, 1910-50

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30. Oats: Acreage and Yield, by Canadian Provinces and Adjoining U.S. Border States, 1910-50

31. Barley: Acreage and Yield, Canada and U.S. Border States, 1910-50

32. Barley: Acreage and Yield, by Canadian Provinces and Adjoining U.S. Border States, 1910-50

33. Flaxseed: Acreage and Yield, Canada and U.S. Border States, 1910-50

34. Flaxseed: Acreage and Yield, by Canadian Provinces and Adjoining U.S. Border States, 1910-50

Table 1.-Cattle and Calves: Output in Relation to Inventory Numbers, Canada and the United States, 1930-50

Year	Cattle on farms 1/		Output 2/						Output as percentage of numbers		U.S. cattle production (live weight)	
			Canada			United States						
	Canada	U.S.A.	Cattle	Calves	Total	Cattle	Calves	Total	Canada	U.S.A.	Total	Per head
	Thousands	Thousands	Thousands	Thousands	Thousands	Thousands	Thousands	Thousands	Percent	Percent	Million pounds	Pounds
1930	3/ 7,420	61,003	1,030	955	3/ 1,985	12,058	7,761	19,819	26.7	32.5	13,263	217
1931	3/ 7,650	63,030	1,070	922	3/ 1,992	12,096	8,057	20,153	26.4	32.0	13,386	213
1932	7,864	65,801	1,025	929	3/ 1,954	11,980	7,970	19,950	24.9	30.3	14,232	214
1933	8,123	70,280	1,120	1,030	3/ 2,150	13,107	8,564	21,671	26.5	30.8	15,405	219
1934	8,460	74,369	1,272	1,125	3/ 2,397	15,071	10,106	25,177	28.4	33.8	14,538	196
1935	8,485	68,846	1,388	1,227	2,615	14,560	9,580	24,140	30.8	35.0	13,651	197
1936	8,431	67,847	1,570	1,299	2,869	15,897	10,008	25,905	34.1	38.2	14,438	213
1937	8,337	66,098	1,620	1,578	3,198	15,254	10,304	25,558	38.3	38.6	13,746	209
1938	8,080	65,249	1,519	1,438	2,957	14,822	9,306	24,128	36.6	36.9	14,047	214
1939	8,091	66,029	1,546	1,432	2,978	14,621	9,191	23,812	36.7	36.0	15,177	230
1940	8,224	68,309	1,560	1,496	3,056	14,958	9,089	24,047	37.3	37.5	15,702	230
1941	8,316	71,755	1,754	1,577	3,331	16,419	9,252	25,671	40.0	35.7	17,029	238
1942	8,605	76,025	1,723	1,388	3,111	18,033	9,718	27,751	36.1	36.4	18,568	244
1943	8,834	81,204	1,864	1,206	3,070	17,845	9,940	27,785	34.8	34.2	19,169	237
1944	9,506	85,334	2,017	1,374	3,491	19,884	14,242	34,126	36.5	40.0	19,708	230
1945	10,258	85,573	2,497	1,496	3,993	21,691	13,645	35,336	39.0	41.2	19,345	226
1946	9,961	82,434	2,370	1,466	3,836	19,824	12,168	31,992	38.5	38.7	18,782	228
1947	9,016	81,207	2,183	1,393	3,576	22,393	13,695	36,088	39.7	44.4	19,055	235
1948	8,944	78,126	2,400	1,565	3,965	19,186	12,328	31,514	44.2	40.2	18,371	235
1949	8,251	78,298	2,294	1,318	3,612	18,789	11,345	30,134	43.4	38.5	19,352	247
1950	8,243	80,052	2,163	1,413	3,576	18,642	10,435	29,077	43.4	36.3	20,587	257

1/ Canada - Dec. 1 previous year. United States - Jan. 1 year statsd.

2/ Canada - Slaughter plus exports of live animals. United States - Slaughter only.

3/ Estimated from available records.

Table 2.-All Cattle: 1/ Number and Index, Canada, U.S. Border States and United States Total, 1901 and 1910-50

(Index: 1910-29=100)

Year	Canada (June 1)		U.S. Border States (Jan. 1)		United States Total (Jan. 1)	
	Number	Index	Number	Index	Number	Index
	1,000		1,000		1,000	
1901	5,576	-	8,254	83	62,576	-
1910	6,515	86	8,456	85	58,993	92
1911	6,526	86	8,334	84	57,223	90
1912	6,686	88	8,232	83	55,675	87
1913	6,855	90	8,595	87	56,592	89
1914	6,911	91	9,125	92	59,451	93
1915	7,221	95	9,678	98	63,849	100
1916	7,498	98	10,383	105	67,438	106
1917	7,789	102	10,770	109	70,979	111
1918	8,251	109	11,057	112	73,040	115
1919	8,485	112	11,108	112	72,094	113
1920	8,154	107	10,969	111	70,400	110
1921	8,370	110	10,667	108	68,714	108
1922	8,267	109	10,820	109	68,795	108
1923	7,975	105	10,596	107	67,546	106
1924	8,135	107	10,382	105	65,996	104
1925	7,977	105	10,137	102	63,373	99
1926	7,818	103	9,945	100	60,576	95
1927	7,603	100	9,482	96	58,178	91
1928	7,458	98	9,473	96	57,322	90
1929	7,518	99	9,807	99	58,877	92
20-yr. ave. (1910-29)	7,601	100	9,901	100	63,756	100
1930	7,686	101	10,264	104	61,003	96
1931	7,973	105	10,566	107	63,030	99
1932	8,548	113	10,973	111	65,801	103
1933	8,954	118	11,720	118	70,280	110
1934	9,070	119	12,237	124	74,369	117
1935	8,973	118	10,892	110	68,846	108
1936	8,829	116	10,886	110	67,847	107
1937	8,915	117	10,469	106	66,098	104
1938	8,491	112	10,518	106	65,249	102
1939	8,375	110	10,833	109	66,029	104
1940	8,380	110	11,288	114	68,309	107
1941	8,517	112	11,875	120	71,755	113
1942	8,945	118	12,379	125	76,025	119
1943	9,665	127	12,937	131	81,204	127
1944	10,346	136	13,693	138	85,334	134
1945	10,759	142	13,664	138	85,573	134
1946	9,665	127	13,139	133	82,434	129
1947	9,718	128	12,723	129	81,207	127
1948	9,476	125	12,309	124	78,126	123
1949	9,081	119	12,375	125	79,298	123
1950	9,045	119	12,399	125	80,052	126

1/ Including milk cows.

Sources: Canada - Live Stock and Animal Products Statistics, 1943, 1948, 1949. United States - Livestock on Farms, January 1, 1867-1935, Revised Estimates; and Livestock Market News, 1949.

Table 3. - All Cattle: 1/ Number and Index, by Canadian Provinces and U.S. Border States, 1901 and 1910-50 2/

(Index: 1910-29 = 100)

Year	Maritime Provinces 3/		Maine		Quebec		Maine, New Hamp., Vermont		Ontario		New York, Michigan		Manitoba		Minnesota, North Dakota		Saskatchewan		North Dakota		Alberta		Montana		British Columbia		Washington	
	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index
	1,000		1,000		1,000		1,000		1,000		1,000		1,000		1,000		1,000		1,000		1,000		1,000		1,000		1,000	
1901	-	-	315	121	-	-	964	117	-	-	3,487	101	-	-	2,324	60	-	-	572	52	-	-	975	80	-	-	504	90
1910	625	108	240	92	1,431	92	798	97	2,477	97	3,373	98	464	81	2,886	75	606	59	662	61	774	69	919	75	138	74	480	86
1911	623	108	245	94	1,453	93	802	98	2,502	98	3,394	98	436	76	2,816	73	634	62	656	60	740	66	882	72	139	75	440	79
1912	618	107	260	100	1,471	95	820	100	2,517	98	3,348	97	447	78	2,795	73	692	68	650	60	801	72	829	68	139	75	440	79
1913	572	99	265	102	1,516	97	820	100	2,505	98	3,354	97	472	82	3,100	80	755	74	700	64	892	80	846	69	144	77	475	85
1914	558	96	266	102	1,442	93	818	100	2,467	96	3,406	99	502	88	3,425	89	814	79	775	71	981	88	956	78	146	78	520	93
1915	557	96	269	103	1,442	93	825	100	2,519	98	3,546	103	531	93	3,650	95	948	92	900	82	1,071	96	1,090	89	154	83	567	101
1916	560	97	274	105	1,487	96	831	101	2,560	100	3,662	106	557	97	4,010	104	1,013	99	1,000	92	1,160	104	1,265	104	162	87	615	110
1917	568	98	280	108	1,605	103	845	103	2,632	103	3,692	107	531	93	4,095	106	1,038	101	1,150	105	1,237	110	1,505	124	178	96	633	113
1918	660	114	305	117	1,688	108	883	107	2,656	104	3,721	108	671	117	4,190	109	1,086	106	1,175	108	1,303	116	1,600	131	186	100	663	119
1919	691	119	310	119	1,705	110	902	91	2,696	105	3,706	107	670	117	4,250	110	1,160	113	1,200	110	1,373	123	1,620	133	190	102	630	113
1920	672	116	301	116	1,649	106	900	109	2,639	103	3,730	108	622	109	4,356	113	1,105	108	1,335	122	1,271	113	1,370	112	196	105	613	110
1921	607	105	276	106	1,595	103	885	108	2,634	103	3,640	106	646	113	4,290	111	1,296	126	1,350	124	1,384	124	1,269	104	209	112	583	104
1922	587	101	259	100	1,570	101	877	107	2,590	101	3,596	104	675	118	4,380	114	1,325	129	1,400	128	1,318	118	1,330	113	202	109	587	105
1923	528	91	247	95	1,528	101	849	103	2,597	101	3,490	101	632	110	4,310	112	1,265	123	1,370	125	1,229	110	1,360	112	197	106	587	105
1924	530	92	245	94	1,525	98	816	99	2,676	104	3,360	97	630	110	4,260	110	1,257	123	1,370	125	1,329	119	1,360	112	189	102	586	105
1925	529	91	241	93	1,540	99	763	93	2,581	101	3,258	94	615	107	4,194	109	1,229	120	1,341	123	1,282	114	1,340	110	202	109	582	104
1926	545	94	238	92	1,570	101	753	92	2,540	99	3,166	92	610	106	4,168	108	1,160	113	1,315	120	1,169	104	1,300	107	224	120	558	100
1927	522	90	233	90	1,598	103	744	91	2,606	98	3,118	90	589	103	3,916	102	1,088	106	1,166	107	1,071	96	1,144	94	231	124	530	95
1928	506	87	225	87	1,648	106	745	91	2,481	97	3,164	92	573	100	3,890	101	1,006	98	1,140	104	996	89	1,144	94	248	133	530	95
1929	520	90	225	87	1,657	106	754	92	2,477	97	3,239	94	585	102	4,067	106	1,015	99	1,195	109	1,010	90	1,190	98	254	137	557	100
20-yr. ave. (1910-29)	579	100	260	100	1,556	100	822	100	2,563	100	3,448	100	573	100	3,854	100	1,025	100	1,092	100	1,120	100	1,218	100	186	100	559	100
1930	530	92	236	91	1,677	108	775	94	2,486	97	3,347	97	637	117	4,337	113	1,079	105	1,307	120	1,037	93	1,226	101	240	129	579	104
1931	535	92	246	95	1,708	110	805	98	2,514	98	3,347	97	669	117	4,549	118	1,189	116	1,398	128	1,125	100	1,263	104	234	126	602	108
1932	560	97	253	97	1,875	121	823	100	2,537	99	3,419	99	733	128	4,812	125	1,346	131	1,566	143	1,241	111	1,276	105	252	135	643	115
1933	584	101	255	98	1,756	113	834	101	2,537	99	3,584	104	802	140	5,158	134	1,485	145	1,750	160	1,520	136	1,450	119	270	145	694	124
1934	561	97	257	99	1,719	110	820	100	2,514	98	3,595	104	789	138	5,406	140	1,564	153	1,861	170	1,642	147	1,704	140	280	151	712	127
1935	519	90	245	94	1,653	106	785	95	2,496	97	3,438	100	752	131	4,398	114	1,563	152	1,219	112	1,697	152	1,530	126	293	158	741	133
1936	496	86	231	89	1,685	108	773	94	2,508	98	3,487	101	748	131	4,508	117	1,535	150	1,329	122	1,554	139	1,362	112	304	163	756	135
1937	531	92	231	89	1,750	112	786	96	2,495	97	3,572	104	827	144	4,381	114	1,492	146	1,170	107	1,515	135	974	80	305	164	756	135
1938	538	93	229	88	1,793	115	787	96	2,541	99	3,644	106	812	142	4,433	115	1,538	111	1,158	106	1,376	123	890	73	293	158	764	136
1939	543	94	231	89	1,798	116	793	96	2,542	99	3,754	109	751	131	4,501	117	1,148	112	1,193	109	1,311	117	1,006	83	281	151	779	139
1940	519	90	235	90	1,775	114	802	98	2,581	101	3,825	111	728	127	4,720	122	1,189	116	1,313	120	1,299	116	1,148	94	289	155	793	142
1941	506	87	230	88	1,757	113	799	97	2,640	103	3,932	114	705	123	5,021	130	1,241	121	1,444	132	1,342	120	1,274	105	326	175	849	152
1942	509	88	218	84	1,781	114	770	94	2,639	103	3,968	115	822	143	5,301	138	1,395	136	1,617	148	1,469	131	1,440	118	329	177	900	161
1943	534	92	216	83	1,905	122	777	95	2,694	105	4,042	117	927	162	5,528	143	1,602	156	1,733	159	1,627	145	1,627	134	376	202	963	172
1944	568	98	235	90	2,030	130	825	100	2,745	107	4,198	122	992	173	5,781	150	1,886	184	1,915	175	1,743	156	1,887	155	382	205	1,002	179
1945	559	97	235	90	2,012	129	824	100	2,908	113	4,221	122	1,024	179	5,742	152	1,979	193	1,915	175	1,860	166	1,925	158	417	224	952	170
1946	538	93	223	86	1,972	127	798	97	2,868	112	4,095	119	800	140	5,417	141	1,499	146	1,781	163	1,598	143	1,925	158	390	210	904	162
1947	507	88	225	87	2,033	131	790	96	2,875	112	4,035	117	779	136	5,183	134	1,511	147	1,656	152	1,654	148	1,829	150	359	193	886	158
1948	484	84	225	87	2,016	130	781	95	2,870	112	3,979	115	724	126	4,834	126	1,436	140	1,590	146	1,584	141	1,811	149	362	195	868	155
1949	487	84	212	82	1,986	128	763	93	2,860	112	4,040	117	681	119	4,802	125	1,254	122	1,558	143	1,465	131	1,902	156	348	187	868	155
1950 4/	501	87	216	83	1,986	128	767	93	2,860	112	4,140	120	683	119	4,803	125	1,214	118	1,527	140	1,443	129	1,712	141	357	192	897	160

1/ Including milk cows.
2/ Numbers in Canada as of June 1; in the United States as of January 1.
3/ Nova Scotia, New Brunswick, Prince Edward Island.
4/ Preliminary.

Sources: See Table 2.

Table 4.-All Cattle: Value per Head, Canada, U.S. Border States and United States Total, 1901 and 1910-50

(Index: 1910-29=100)

Year	Canada		Border States		United States Total	
	Can$ per head	Index	US$ per head	Index	US$ per head	Index
1901	-	-	24	52	23	59
1910	36	73	28	61	25	64
1911	30	61	32	70	27	69
1912	n.a.	n.a.	33	72	28	72
1913	n.a.	n.a.	39	85	33	85
1914	49	100	46	100	39	100
1915	52	106	48	104	41	105
1916	61	124	45	98	40	103
1917	68	139	48	104	43	110
1918	71	145	57	124	50	128
1919	71	145	59	128	55	141
1920	60	122	59	128	53	136
1921	40	82	45	98	39	100
1922	35	71	38	83	30	77
1923	34	69	38	83	32	82
1924	35	71	40	87	32	82
1925	39	80	39	85	32	82
1926	40	82	45	98	37	95
1927	49	100	39	85	40	103
1928	58	118	60	130	51	131
1929	59	120	70	152	58	149
20-yr. ave. (1910-29)	1/ 49	100	46	100	39	100
1930	45	92	68	148	56	144
1931	32	65	49	107	39	100
1932	23	47	34	74	26	67
1933	23	47	25	54	20	51
1934	22	45	23	50	18	46
1935	27	55	26	57	20	51
1936	29	59	41	89	34	87
1937	31	63	42	91	34	87
1938	32	65	45	98	37	95
1939	39	80	45	98	38	97
1940	43	88	47	102	41	105
1941	39	80	50	109	43	110
1942	49	100	62	135	55	141
1943	71	145	82	178	69	177
1944	67	137	82	178	68	174
1945	68	139	80	174	67	172
1946	76	155	90	196	76	195
1947	82	167	117	254	97	249
1948	98	200	136	296	116	297
1949	113	231	196	426	135	346
1950	-	-	137	298	123	315

1/ Average for 18 years only.

Sources: See Table 2.

Table 5. - All Cattle: Value per Head, by Canadian Provinces, and U.S. Border States, 1901 and 1910-50

(Index: 1910-29 = 100)

Year	Maritime Provinces 1/		Maine		Quebec		Maine, New Hamp., Vermont		Ontario		New York, Michigan		Manitoba		Minnesota, North Dakota		Saskatchewan		North Dakota		Alberta		Montana		British Columbia		Washington	
	Can$ per head	Index	US $ per head	Index	Can$ per head	Index	US $ per head	Index	Can$ per head	Index	US $ per head	Index	Can$ por head	Index	US $ per head	Index	Can$ per head	Index	US $ per head	Index	Can$ per head	Index	US $ per head	Index	Can$ por head	Index	US $ per head	Indox
1901	-	-	22	49	-	-	22	45	-	-	25	46	-	-	23	61	-	-	24	65	-	-	27	64	-	-	25	53
1910	n.a.	n.a.	27	60	n.a.	n.a.	28	57	n.a.	n.a.	32	59	n.a.	n.a.	24	63	n.a.	n.a.	25	68	n.a.	n.a.	29	69	n.a.	n.a.	28	60
1911	22	54	35	78	26	57	37	76	33	57	38	70	29	62	26	68	34	74	25	68	31	66	30	71	36	63	31	66
1912	n.a.	n.a.	34	76	n.a.	n.a.	35	71	n.a.	n.a.	34	63	n.a.	n.a.	27	71	n.a.	n.a.	28	76	n.a.	n.a.	32	76	n.a.	n.a.	36	77
1913	n.a.	n.a.	35	78	n.a.	n.a.	36	73	n.a.	n.a.	39	72	n.a.	n.a.	34	89	n.a.	n.a.	35	95	n.a.	n.a.	42	100	n.a.	n.a.	43	91
1914	33	80	36	80	44	96	39	80	54	93	47	87	49	104	41	108	51	111	44	119	50	106	50	119	66	116	51	109
1915	35	85	42	93	46	100	44	90	57	98	49	91	52	111	42	111	54	117	46	124	53	113	53	126	59	104	50	106
1916	43	105	39	87	56	122	44	90	70	121	46	85	60	128	38	100	57	124	42	114	61	130	54	129	63	111	42	89
1917	52	127	45	100	64	139	50	102	75	129	51	94	68	145	42	111	66	143	45	122	70	149	56	133	73	128	42	89
1918	53	129	58	129	61	133	63	129	78	134	63	117	73	155	50	132	73	159	51	138	75	160	59	140	75	132	49	104
1919	60	146	55	122	62	135	59	120	83	143	68	126	67	143	56	147	70	152	59	159	66	140	62	148	81	142	52	111
1920	49	120	59	131	56	122	64	131	71	122	77	143	52	111	50	132	53	115	46	124	51	109	48	114	83	146	58	123
1921	34	83	46	102	37	80	50	102	45	78	54	100	35	74	35	92	38	83	32	86	37	79	37	88	56	98	49	104
1922	34	83	37	82	34	74	40	82	44	76	46	85	31	66	28	74	28	61	24	65	25	53	29	69	41	72	45	96
1923	33	80	43	96	32	70	43	88	44	76	46	85	29	62	29	76	26	57	26	70	27	57	32	76	39	68	41	87
1924	32	78	44	98	34	74	45	92	43	74	49	91	29	62	31	82	29	63	27	73	27	57	29	69	42	74	46	98
1925	38	93	41	91	40	87	44	90	48	83	48	89	33	70	32	84	31	67	27	73	30	64	29	69	44	77	44	94
1926	38	93	50	111	39	85	54	110	51	88	58	107	35	74	36	95	32	70	31	84	33	70	31	74	43	75	44	94
1927	39	95	51	113	43	93	59	120	60	103	64	119	45	95	38	100	42	91	33	89	44	94	33	79	51	89	50	106
1928	47	115	58	129	51	111	71	145	68	117	78	144	56	119	49	129	53	115	44	119	55	117	46	110	60	105	58	123
1929	47	115	65	144	54	117	76	155	68	117	88	163	54	115	58	153	52	113	54	146	57	121	58	138	61	107	72	153
20-yr. ave. (1910-29)	2/41	100	45	100	2/46	100	49	100	2/58	100	54	100	2/47	100	38	100	2/46	100	37	100	2/47	100	42	100	2/57	100	47	100
1930	41	100	72	160	42	91	80	163	51	88	85	157	40	85	56	147	41	89	51	138	43	91	54	129	53	93	66	140
1931	28	68	51	113	30	65	60	122	37	64	58	107	28	60	38	100	28	61	35	95	31	66	39	93	46	81	48	102
1932	25	61	37	82	21	46	41	84	26	45	42	78	21	45	24	63	20	43	22	59	22	47	24	57	35	61	37	79
1933	23	56	26	58	21	46	30	61	27	47	32	59	20	43	18	47	19	41	17	46	19	40	21	50	34	60	26	55
1934	21	51	25	56	22	48	29	59	27	47	32	59	18	38	16	42	18	39	14	38	18	38	17	40	32	56	20	43
1935	26	63	28	62	26	57	33	67	35	60	35	65	25	53	19	50	22	48	18	49	21	45	18	43	33	58	26	55
1936	30	73	42	93	31	67	50	102	37	64	53	98	25	53	36	95	21	46	33	89	20	43	32	76	35	61	35	74
1937	31	76	43	96	34	74	49	100	39	67	54	100	28	60	34	89	23	50	30	81	24	51	30	71	36	63	42	89
1938	31	76	44	98	33	72	51	104	38	66	56	104	29	62	38	100	27	59	34	92	27	57	35	83	37	65	44	94
1939	33	80	43	96	36	78	50	102	47	81	54	100	37	79	40	105	35	76	37	100	34	72	41	98	38	67	40	85
1940	34	83	43	96	38	83	50	102	50	86	54	100	42	89	43	113	40	87	41	111	42	89	46	110	43	75	42	89
1941	28	68	42	93	33	72	50	102	46	79	59	109	38	81	46	121	35	76	44	119	39	83	48	114	42	74	47	100
1942	36	88	52	116	45	98	61	124	59	102	74	137	48	102	57	150	45	98	54	146	43	91	59	140	52	91	60	128
1943	58	141	76	169	75	163	88	180	81	140	100	185	67	143	74	195	66	143	70	189	64	136	76	181	62	109	71	151
1944	54	132	88	196	68	148	101	206	77	133	100	185	65	138	70	184	64	139	66	178	62	132	74	176	64	112	64	136
1945	57	139	75	167	70	152	89	182	79	136	99	183	64	136	70	184	62	135	66	178	63	134	74	176	64	112	68	145
1946	66	161	95	211	81	176	104	212	90	155	110	204	66	140	80	211	66	143	75	203	67	143	79	188	67	118	78	166
1947	76	185	105	233	82	178	131	267	93	160	144	267	77	164	105	276	75	163	98	265	76	162	98	233	78	137	107	228
1948	89	218	114	253	93	202	132	269	113	195	158	293	90	191	130	342	90	196	126	341	92	196	130	310	92	161	130	277
1949	94	230	129	287	105	228	156	318	125	215	186	344	112	238	150	395	111	241	143	386	112	238	141	336	103	180	150	319
1950	-	-	121	269	-	-	138	282	-	-	159	294	-	-	136	358	-	-	132	357	-	-	128	305	-	-	125	266

1/ Nova Scotia, New Brunswick, Prince Edward Island.
2/ Average for 17 years only.

Source: See Table 2.

Table 6.-Milk Cows: Number and Index, Canada, U.S. Border States, and United States Total, 1901 and 1910-50 1/

(Index: 1910-29=100)

Year	Canada		U.S. Border States		United States Total	
	Number	Index	Number	Index	Number	Index
	1,000		1,000		1,000	
1901	2,409	-	3,790	77	16,708	-
1910	2,592	86	4,302	88	19,450	92
1911	2,645	88	4,342	89	19,422	92
1912	2,692	90	4,412	90	19,517	92
1913	2,766	92	4,447	91	19,580	92
1914	2,786	93	4,538	93	19,821	94
1915	2,834	94	4,664	95	20,270	96
1916	2,881	96	4,796	98	20,752	98
1917	2,927	98	4,916	100	21,212	100
1918	2,901	97	4,992	102	21,536	102
1919	2,997	100	5,015	102	21,545	102
1920	2,986	100	5,071	103	21,455	102
1921	3,087	103	5,086	104	21,456	102
1922	3,168	105	5,199	106	21,851	103
1923	3,170	106	5,249	107	22,138	104
1924	3,195	106	5,291	108	22,331	105
1925	3,273	109	5,298	108	22,575	106
1926	3,373	112	5,202	106	22,410	105
1927	3,366	112	5,090	104	22,251	105
1928	3,295	110	5,055	103	22,231	105
1929	3,213	107	5,094	104	22,440	106
20-yr. ave. (1910-29)	3,008	100	4,903	100	21,212	100
1930	3,233	108	5,231	107	23,032	109
1931	3,372	112	5,419	111	23,820	112
1932	3,592	120	5,647	115	24,896	117
1933	3,690	123	5,862	120	25,936	122
1934	3,861	129	6,007	123	26,931	126
1935	3,841	128	5,677	116	26,082	122
1936	3,805	127	5,538	113	25,196	119
1937	3,844	128	5,452	111	24,649	116
1938	3,730	124	5,451	111	24,466	115
1939	3,681	123	5,499	112	24,600	115
1940	3,650	122	5,599	114	24,940	117
1941	3,626	121	5,751	117	25,453	120
1942	3,681	123	5,847	119	26,313	124
1943	3,795	126	5,948	121	27,138	128
1944	3,930	131	6,066	124	27,704	131
1945	3,998	133	6,054	123	27,770	131
1946	3,711	127	5,820	119	26,695	127
1947	3,697	123	5,673	116	26,098	123
1948	3,701	123	5,425	111	25,039	118
1949	3,620	120	5,336	109	24,416	115
1950	3,609	120	5,342	109	24,573	116

1/ Numbers in Canada as of June 1; in United States as of January 1.

Sources: See Table 2.

Table 7. - Milk Cows: Number and Index, by Canadian Provincee and U.S. Border Statee, 1901 and 1910-50 1/

(Index: 1910-29 = 100)

Year	Maritime Provinces 2/		Maine		Quebec		Maine, New Hamp., Vermont		Ontario		New York, Michigan		Manitoba		Minnesota, North Dakota		Saskatchewan		North Dakota		Alberta		Montana		British Columbia		Washington	
	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index
	1,000		1,000		1,000		1,000		1,000		1,000		1,000		1,000		1,000		1,000		1,000		1,000		1,000		1,000	
1901	-	-	160	103	-	-	551	104	-	-	2,104	94	-	-	995	57	-	-	125	31	-	-	35	23	-	-	105	44
1910	303	111	150	96	740	92	515	97	1,072	97	2,225	100	159	80	1,315	75	147	48	230	58	137	49	77	51	34	76	170	71
1911	304	112	150	96	754	94	518	98	1,106	100	2,236	100	155	78	1,333	76	155	51	248	62	138	50	80	53	34	76	175	73
1912	290	107	153	98	763	95	522	99	1,077	98	2,235	100	160	80	1,375	79	198	65	268	67	170	61	100	66	34	76	180	75
1913	268	99	150	96	774	96	513	97	1,099	100	2,217	99	176	88	1,407	80	222	73	278	70	193	69	120	79	34	76	190	79
1914	265	97	145	93	750	93	504	95	1,083	98	2,220	99	192	96	1,469	84	245	80	306	77	216	78	140	93	34	76	205	86
1915	268	99	149	96	743	93	513	97	1,083	98	2,260	101	207	104	1,519	87	266	87	336	84	233	84	150	99	34	76	222	93
1916	273	100	154	99	752	94	522	99	1,062	96	2,298	103	223	112	1,576	90	286	93	336	84	249	90	160	106	35	78	240	100
1917	279	103	158	101	805	100	536	101	1,048	95	2,315	104	192	96	1,654	94	304	99	352	88	264	95	160	106	36	80	251	105
1918	278	102	170	109	808	101	561	106	1,016	92	2,305	103	203	102	1,715	98	300	98	387	97	258	93	160	106	39	87	251	105
1919	291	107	174	112	818	102	562	106	1,051	95	2,273	102	195	98	1,777	101	314	103	427	107	288	104	155	103	40	89	248	104
1920	293	108	176	113	815	101	566	107	1,071	97	2,323	104	182	91	1,789	102	296	97	430	108	286	103	148	98	42	93	245	103
1921	272	100	171	110	811	101	565	107	1,097	99	2,292	103	199	100	1,831	105	350	114	426	107	311	112	148	98	46	102	250	105
1922	261	96	165	106	810	101	561	106	1,128	102	2,285	102	230	116	1,943	111	378	124	440	110	314	113	155	103	46	102	255	107
1923	247	91	162	104	792	99	555	105	1,158	105	2,280	102	232	117	1,982	113	361	118	457	115	337	121	162	107	53	118	270	113
1924	252	93	160	103	805	100	544	103	1,104	100	2,269	102	234	118	2,029	116	385	126	494	124	363	131	174	115	53	118	275	115
1925	260	96	156	100	827	103	523	99	1,132	103	2,233	100	199	100	2,080	119	407	133	520	130	391	141	187	124	57	127	275	115
1926	271	100	152	97	862	107	515	97	1,180	107	2,149	96	220	111	2,078	119	406	133	515	129	376	135	190	126	58	128	270	113
1927	264	97	147	94	882	110	501	95	1,200	109	2,084	93	213	107	2,055	117	385	126	504	126	362	130	185	123	61	136	265	111
1928	256	94	138	88	898	112	492	93	1,167	106	2,081	93	210	106	2,029	116	356	116	504	126	344	124	183	121	65	144	270	113
1929	253	93	135	87	847	105	488	92	1,147	104	2,091	94	190	95	2,055	117	365	119	516	129	339	122	190	126	70	156	270	113
20-yr. ave. (1910-29)	272	100	156	100	803	100	529	100	1,104	100	2,234	100	199	100	1,751	100	306	100	399	100	278	100	151	100	45	100	239	100
1930	250	92	138	88	824	103	493	93	1,136	103	2,130	95	218	110	2,135	122	381	125	540	135	352	127	193	128	72	160	280	117
1931	253	93	145	93	892	111	514	97	1,098	99	2,202	99	237	119	2,210	126	424	139	567	142	385	138	196	130	83	184	297	124
1932	267	98	152	97	930	116	530	100	1,168	106	2,275	102	261	131	2,332	133	462	151	624	156	422	152	200	132	81	180	310	130
1933	276	101	154	99	948	118	542	102	1,170	106	2,326	104	314	158	2,460	140	499	163	667	167	402	145	210	139	82	182	324	136
1934	284	104	156	100	940	117	538	102	1,158	105	2,328	104	353	177	2,594	148	585	191	701	176	454	163	215	142	86	191	332	139
1935	277	102	152	97	928	116	528	100	1,156	105	2,226	100	347	174	2,372	135	592	193	596	149	454	163	206	136	88	196	345	144
1936	269	99	144	92	928	116	519	98	1,149	104	2,208	99	358	180	2,289	131	565	185	584	146	442	159	187	124	94	209	335	140
1937	272	100	143	92	949	118	516	98	1,138	103	2,244	100	406	204	2,192	125	553	181	521	131	432	155	172	114	93	207	328	137
1938	273	100	139	89	967	120	510	96	1,131	102	2,278	102	390	196	2,184	124	467	153	496	124	411	148	144	95	91	202	335	140
1939	278	102	138	88	984	123	512	97	1,133	103	2,310	103	363	182	2,184	124	442	144	496	124	391	141	151	100	89	198	342	143
1940	271	100	138	88	1,008	126	515	97	1,139	103	2,341	105	340	171	2,242	128	432	141	520	130	371	133	156	103	90	200	345	144
1941	269	99	134	86	999	124	512	97	1,156	105	2,397	107	306	154	2,318	132	438	143	562	141	364	131	162	107	92	204	362	151
1942	262	96	126	81	997	124	493	93	1,150	104	2,416	108	345	173	2,399	137	468	153	590	148	367	132	170	113	92	204	369	154
1943	264	97	125	80	1,019	127	493	93	1,170	106	2,431	109	370	186	2,471	141	502	164	608	152	376	135	173	115	94	209	380	159
1944	272	100	132	85	1,071	133	514	97	1,184	108	2,500	112	387	194	2,502	143	529	173	620	155	386	139	170	113	96	213	380	159
1945	275	101	135	87	1,104	137	519	98	1,253	113	2,564	115	366	184	2,426	139	525	172	583	146	376	135	165	109	99	220	380	159
1946	265	97	130	83	1,038	137	512	97	1,251	113	2,523	113	277	139	2,276	130	399	130	525	132	326	117	152	101	96	213	357	149
1947	252	93	131	84	1,121	140	507	96	1,253	113	2,487	111	267	134	2,186	125	394	129	488	122	316	114	147	97	96	213	346	145
1948	241	89	127	81	1,129	141	488	92	1,261	114	2,444	109	262	132	2,023	116	387	126	444	111	327	118	134	89	94	209	336	141
1949	244	90	121	78	1,114	139	484	91	1,250	113	2,459	110	244	123	1,933	110	360	118	417	105	315	113	131	87	94	209	329	138
1950	247	91	122	78	1,124	140	480	91	1,237	112	2,499	112	241	121	1,903	109	352	115	417	105	308	111	128	85	100	222	326	136

1/ Numbers in Canada as of June 1; in the United States, January 1.
2/ Nova Scotia, New Brunewick, Prince Edward Island.

Sources: See Table 2.

Table 8.-Milk Cows: Value Per Head, Canada, U.S. Border States, and United States Total, 1901 and 1910-50

(Index: 1910-29=100)

Year	Canada		U.S. Border States		United States Total	
	Can$ per head	Index	US$ per head	Index	US$ per head	Index
1901	-	-	33	52	30	53
1910	43	68	39	62	35	61
1911	42	67	44	70	40	70
1912	n.a.	n.a.	45	71	39	68
1913	n.a.	n.a.	52	83	45	79
1914	58	92	62	98	54	95
1915	62	98	64	102	55	96
1916	70	111	61	97	54	95
1917	85	135	65	103	60	105
1918	87	138	77	122	71	125
1919	93	148	80	127	78	137
1920	80	127	84	133	82	144
1921	61	97	66	105	61	107
1922	48	76	55	87	49	86
1923	48	76	53	84	49	86
1924	46	73	56	89	50	88
1925	51	81	53	84	48	84
1926	52	83	61	97	55	96
1927	61	97	65	103	59	104
1928	72	114	80	127	73	128
1929	75	119	94	149	84	147
20-yr. ave. (1910-29)	1/ 63	100	63	100	57	100
1930	59	94	92	146	83	146
1931	48	76	66	105	57	100
1932	32	51	46	73	40	70
1933	31	49	35	56	29	51
1934	29	46	30	48	27	47
1935	35	56	35	56	30	53
1936	37	59	55	87	49	86
1937	40	63	57	90	50	88
1938	40	63	61	97	55	96
1939	46	73	61	97	56	98
1940	51	81	63	100	57	100
1941	53	84	67	106	61	107
1942	70	111	81	129	78	137
1943	102	162	110	175	100	175
1944	97	154	113	179	102	179
1945	98	155	110	175	99	174
1946	111	176	124	197	112	196
1947	117	186	157	249	145	254
1948	136	216	132	289	164	288
1949	155	245	213	338	193	339
1950	-	-	189	300	177	311

1/ Average for 18 years only.

Sources: See Table 2.

Table 9. - Milk Cows: Value Per Head, by Canadian Provincee, and U.S. Border States, 1901 and 1910-50

(Index: 1910-29 = 100)

Year	Maritime Provinces 1/		Maine		Quebec		Maine, New Hamp., Vermont		Ontario		New York, Michigan		Manitoba		Minnesota, North Dakota		Saskatchewan		North Dakota		Alberta		Montana		British Columbia		Washington	
	Can$ per head	Index	US$ per head	Index	Can$ per head	Index	US$ per head	Index	Can$ per head	Index	US$ per head	Index	Can$ per head	Index	US$ per head	Index	Can$ per head	Index	US$ per head	Index	Can$ per head	Index	US$ per head	Index	Can$ per head	Index	US$ per head	Index
1901	-	-	27	47	-	-	27	44	-	-	32	47	-	-	30	55	-	-	31	58	-	-	39	62	-	-	38	57
1910	34	68	33	57	39	68	34	55	48	67	40	59	40	67	34	62	41	68	34	64	39	65	46	73	57	68	42	63
1911	31	62	44	76	39	68	46	74	47	65	46	68	40	67	36	65	43	72	36	68	43	72	48	76	59	70	45	67
1912	n.a.	n.a.	41	76	n.a.	n.a.	43	69	n.a.	n.a.	42	62	n.a.	n.a.	37	67	n.a.	n.a.	37	70	n.a.	n.a.	49	78	n.a.	n.a.	54	81
1913	n.a.	n.a.	46	79	n.a.	n.a.	46	74	n.a.	n.a.	48	71	n.a.	n.a.	46	84	n.a.	n.a.	47	89	n.a.	n.a.	61	97	n.a.	n.a.	62	93
1914	40	80	48	83	47	82	50	81	64	89	58	85	62	103	57	104	66	110	59	111	66	110	70	111	89	106	74	110
1915	42	84	54	93	50	88	55	89	70	97	60	88	65	108	58	105	69	115	62	117	68	113	75	119	90	107	74	110
1916	51	102	50	86	62	109	55	89	76	106	56	82	73	122	54	98	72	120	57	108	77	128	78	124	94	112	60	90
1917	63	126	58	100	82	144	62	100	92	128	64	94	88	147	60	109	85	142	62	117	89	148	79	125	103	123	60	90
1918	67	134	75	129	79	139	79	127	96	133	80	118	91	152	70	127	91	152	69	130	93	155	84	135	106	126	70	104
1919	76	152	70	121	84	147	74	119	107	149	86	126	90	150	79	144	91	152	80	151	89	148	87	138	118	140	75	112
1920	64	128	76	131	75	132	81	131	92	128	100	148	71	118	76	138	73	122	74	140	71	118	77	122	125	149	84	125
1921	50	100	58	100	57	100	64	103	69	96	70	103	54	90	54	98	58	97	53	100	58	97	70	111	87	104	72	107
1922	44	88	46	79	45	79	52	84	58	81	59	87	42	70	44	80	40	67	41	77	38	63	54	86	69	82	67	100
1923	43	86	53	91	42	74	54	87	58	81	58	85	40	67	44	80	39	65	42	79	39	65	51	81	70	83	58	87
1924	40	80	54	93	43	75	56	90	54	75	61	90	39	65	48	87	41	68	45	85	38	63	49	78	65	77	68	101
1925	47	94	50	86	51	89	53	85	60	83	60	88	44	73	46	84	41	68	42	79	40	67	46	73	66	79	62	93
1926	48	96	64	110	49	86	67	108	63	88	72	106	46	77	51	93	41	68	45	85	43	72	50	79	68	81	63	94
1927	49	98	66	114	54	95	74	119	74	103	80	118	58	97	52	95	51	85	48	91	55	92	51	81	75	89	70	104
1928	60	120	76	131	64	112	91	147	84	117	99	146	70	117	66	120	65	108	61	115	68	113	63	100	84	100	80	119
1929	59	118	87	150	70	123	100	161	85	118	112	165	69	115	80	145	65	108	75	142	74	123	79	125	84	100	99	148
20 yr. ave. (1910-29)	2/50	100	58	100	2/57	100	62	100	2/72	100	68	100	2/60	100	55	100	2/60	100	53	100	2/60	100	63	100	2/84	100	67	100
1930	51	102	96	166	54	95	105	169	66	92	110	162	54	90	78	142	58	97	73	138	58	97	77	122	77	92	92	137
1931	41	82	70	121	45	79	80	129	54	75	74	109	42	70	53	96	43	72	50	94	46	77	55	87	66	79	68	101
1932	32	64	50	86	30	53	54	87	34	47	53	78	29	48	34	62	29	48	33	62	31	52	36	57	51	61	53	79
1933	29	58	36	62	29	51	41	66	34	47	41	60	26	43	25	45	27	45	25	47	29	48	32	51	48	57	36	54
1934	27	54	33	57	29	51	37	60	32	44	40	59	23	38	22	40	24	40	20	38	26	43	26	41	48	57	27	40
1935	32	64	38	66	34	60	43	69	42	58	45	66	30	50	24	44	28	47	23	43	28	47	26	41	50	60	37	55
1936	36	72	56	97	38	67	64	103	46	64	68	100	29	48	48	87	27	45	45	85	26	43	45	71	51	62	50	75
1937	38	76	57	98	43	75	65	105	48	67	70	103	32	53	46	84	28	47	41	77	30	50	41	65	51	61	62	93
1938	38	76	59	102	41	72	67	108	47	65	73	107	33	55	52	95	31	52	46	87	33	55	49	78	50	60	66	99
1939	39	78	57	98	43	75	65	105	56	78	71	104	43	72	55	100	41	68	51	96	40	67	57	90	51	61	55	82
1940	42	84	57	98	46	81	66	106	59	82	72	106	48	80	58	105	47	78	55	104	49	82	61	97	54	64	58	87
1941	38	76	57	98	47	82	67	108	62	86	77	113	52	87	62	113	50	83	59	111	52	87	64	102	60	71	64	96
1942	51	102	70	121	65	114	81	131	81	113	86	126	70	117	76	138	66	110	72	136	67	112	80	127	75	89	84	125
1943	82	164	102	176	105	184	117	189	115	160	129	190	93	155	100	182	94	157	97	183	89	148	105	167	86	102	99	148
1944	78	156	124	214	96	168	139	224	111	154	132	194	91	152	98	178	93	155	93	175	88	147	108	171	88	105	89	133
1945	82	164	104	179	95	167	122	197	114	158	131	193	87	145	96	175	87	145	92	174	89	148	108	171	91	108	94	140
1946	95	190	130	224	111	195	140	226	128	178	144	212	92	153	109	198	94	157	104	196	96	160	118	187	94	112	108	161
1947	108	216	145	250	112	196	163	262	131	182	188	276	108	180	144	262	106	177	135	255	108	180	146	232	109	130	144	215
1948	125	250	156	269	125	219	176	284	157	218	203	299	123	205	177	322	123	205	173	326	129	215	183	290	125	149	170	253
1949	132	260	176	303	140	245	208	335	174	242	241	354	158	263	206	375	155	258	197	372	159	265	205	325	137	163	203	303
1950	-	-	169	291	-	-	186	300	-	-	208	306	-	-	192	349	-	-	190	358	-	-	185	294	-	-	174	260

1/ Nova Scotia, New Brunswick, Prince Edward Island.
2/ Average for 18 years only.

Sources: See Table 2.

Table 10.-Hogs: Number and Index, Canada, U.S. Border States, and United States Total 1901 and 1910-50 1/

(Index: 1910-29 = 100)

Year	Canada		U.S. Border States		United States Total	
	Number	Index	Number	Index	Number	Index
	1,000		1,000		1,000	
1901	-	-	3,155	60	50,681	87
1910	3,304	88	3,426	65	48,072	82
1911	3,635	97	3,853	73	55,366	95
1912	3,684	99	4,099	78	55,394	95
1913	3,683	99	4,459	84	53,747	92
1914	3,640	97	4,763	90	52,853	91
1915	3,464	93	5,391	102	56,600	97
1916	3,562	95	5,914	112	60,596	104
1917	3,292	88	4,827	91	57,578	99
1918	3,677	98	4,959	94	62,931	108
1919	3,623	97	5,270	100	64,326	110
1920	3,152	84	5,184	98	60,159	103
1921	3,324	89	5,158	98	58,942	101
1922	3,493	93	5,363	102	59,849	103
1923	3,986	107	6,355	120	69,304	119
1924	4,594	123	6,702	127	66,576	114
1925	4,009	107	6,064	115	55,770	96
1926	4,037	108	5,755	109	52,105	89
1927	4,302	115	5,997	114	55,496	95
1928	4,217	113	6,235	118	61,873	106
1929	4,048	108	5,816	110	59,042	101
20-yr. ave. (1910-29)	3,736		5,280	100	58,329	100
1930	3,735	100	5,636	107	55,705	96
1931	4,700	126	5,702	108	54,835	94
1932	4,670	125	6,069	115	59,301	102
1933	3,854	103	5,689	108	62,127	107
1934	3,736	100	5,255	100	58,621	101
1935	3,651	98	3,182	60	39,066	67
1936	4,136	111	3,798	72	42,975	74
1937	4,016	107	3,958	75	43,083	74
1938	3,527	94	4,204	80	44,525	76
1939	4,364	117	4,693	89	50,012	86
1940	6,002	161	6,182	117	61,165	105
1941	6,081	163	5,611	106	54,353	93
1942	7,125	191	6,508	123	60,607	104
1943	8,148	218	8,271	157	73,881	127
1944	7,741	207	9,315	176	83,741	144
1945	6,026	161	6,088	115	59,331	102
1946	4,910	131	6,448	122	61,301	105
1947	5,473	146	5,365	102	56,921	98
1948	4,463	119	4,934	93	55,028	94
1949	5,163	138	5,301	100	57,128	98
1950 2/	5,247	140	5,468	104	60,502	104

1/ Numbers in Canada as of June 1, in United States as of January 1.

2/ Preliminary figures.

Sources: See Table 2.

Table 11. - Hogs: Number and Index, by Canadian Provinces and U.S. Border States, 1901 and 1910-50 1/

(Index: 1910-29 = 100)

Year	Maritime Provinces 2/		Maine		Quebec		Maine, New Hamp., Vermont		Ontario		New York, Michigan		Manitoba		Minnesota, North Dakota		Saskatchewan		North Dakota		Alberta		Montana		British Columbia		Washington	
	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index
	1,000		1,000		1,000		1,000		1,000		1,000		1,000		1,000		1,000		1,000		1,000		1,000		1,000		1,000	
1901	-	-	71	96	404	56	195	113	1,563	102	1,465	97	-	-	1,255	40	-	-	145	28	-	-	43	22	-	-	197	80
1910	208	121	77	104	736	102	195	113	1,682	110	1,461	97	183	75	1,500	47	247	50	250	48	215	41	70	36	33	83	200	81
1911	207	120	86	116	794	110	209	121	1,888	123	1,620	108	189	78	1,695	54	286	57	255	49	238	45	88	45	34	85	241	98
1912	197	115	86	116	752	104	214	124	1,803	117	1,725	115	185	76	1,810	57	390	78	255	49	325	62	95	49	32	80	255	91
1913	176	102	78	105	761	106	203	117	1,728	113	1,695	113	189	78	2,166	69	325	65	331	63	470	89	120	62	34	85	275	111
1914	169	98	72	97	734	102	195	113	1,596	104	1,660	110	192	79	2,434	77	406	82	414	79	504	95	164	85	39	98	310	126
1915	167	97	80	108	736	102	202	117	1,483	97	1,685	112	170	70	2,948	93	477	96	523	100	392	74	216	111	37	93	340	138
1916	163	95	87	118	621	86	213	123	1,390	91	1,740	116	216	89	3,418	108	531	107	628	120	604	114	233	120	38	95	310	126
1917	158	92	79	107	594	82	198	114	1,198	78	1,695	113	237	98	2,478	78	498	100	528	101	569	108	136	96	38	95	270	109
1918	183	106	85	115	663	92	196	113	1,573	102	1,705	113	280	115	2,599	82	463	93	454	87	475	90	164	85	40	100	295	119
1919	204	119	92	124	778	108	204	118	1,576	103	1,765	117	249	102	2,832	90	394	79	472	90	377	71	183	94	45	113	286	116
1920	180	105	91	123	689	96	206	119	1,466	96	1,707	113	196	81	2,839	90	303	61	458	87	273	52	167	86	44	110	265	107
1921	162	94	73	99	691	96	167	97	1,386	90	1,540	102	200	82	3,055	97	420	84	455	87	423	80	160	82	42	105	236	96
1922	142	82	61	82	634	88	141	82	1,367	89	1,485	99	210	86	3,360	106	563	113	460	88	536	102	180	93	41	103	197	80
1923	148	86	59	80	704	98	138	80	1,515	99	1,535	102	262	109	4,240	134	697	140	590	113	620	117	225	116	41	103	217	88
1924	167	97	60	81	716	99	131	76	1,568	102	1,490	99	384	158	4,568	144	871	175	738	141	849	161	292	151	40	100	221	89
1925	150	87	56	76	715	99	119	69	1,445	94	1,114	74	299	123	4,353	138	609	122	830	158	753	143	260	144	38	95	198	80
1926	160	93	60	81	749	104	123	71	1,484	97	1,069	71	305	126	4,145	131	698	120	755	144	701	133	240	129	41	103	168	68
1927	173	101	67	91	785	109	143	83	1,599	104	1,129	75	350	144	4,287	136	626	126	622	119	724	137	240	124	44	110	198	80
1928	174	101	70	95	778	108	155	90	1,545	101	1,203	80	298	123	4,369	138	622	125	689	131	754	143	270	139	46	115	238	96
1929	158	92	53	72	781	108	115	66	1,407	92	1,049	70	266	109	4,138	131	627	126	772	147	756	143	300	155	54	135	214	87
20-yr. ave. (1910-29)	172	100	74	100	721	100	173	100	1,535	100	1,504	100	243	100	3,162	100	498	100	524	100	528	100	194	100	40	100	247	100
1930	154	90	49	66	744	103	97	56	1,380	90	862	57	244	100	4,224	134	526	106	730	139	633	120	280	144	54	135	173	70
1931	170	99	49	66	728	101	93	54	1,359	89	737	49	390	160	4,431	140	949	191	766	146	1,052	199	258	133	52	130	183	74
1932	189	110	49	66	669	93	96	55	1,373	89	866	58	346	142	4,635	147	918	184	751	143	1,124	213	252	130	51	128	220	89
1933	146	85	52	70	484	67	99	57	1,255	82	1,009	67	275	113	4,134	131	682	137	638	122	966	183	227	117	46	115	220	89
1934	139	81	51	69	556	77	91	53	1,175	77	939	62	262	108	3,796	120	647	130	475	91	913	173	227	117	44	110	202	82
1935	150	87	44	59	617	86	81	47	1,222	80	702	47	206	85	2,132	67	580	116	232	44	830	157	103	53	46	115	164	66
1936	158	92	45	61	713	99	88	51	1,403	91	836	56	270	111	2,587	82	667	134	345	66	878	166	103	53	47	118	184	74
1937	177	103	53	72	786	109	101	58	1,480	96	1,034	69	254	105	2,501	79	469	94	259	49	799	151	102	53	51	128	220	89
1938	158	92	53	72	656	91	102	59	1,422	93	1,011	67	234	96	2,777	88	284	57	311	59	730	138	84	43	43	108	230	93
1939	164	95	50	68	759	105	98	57	1,536	100	1,097	73	323	133	3,141	99	511	103	330	63	1,025	194	101	52	45	113	256	104
1940	184	107	53	72	958	133	103	60	1,985	129	1,337	89	506	208	4,287	136	880	177	464	89	1,415	268	160	82	74	185	295	119
1941	160	93	46	62	808	112	90	52	1,882	123	1,233	82	503	207	3,843	122	944	190	441	84	1,706	323	168	87	78	195	277	112
1942	196	114	43	58	859	119	84	49	1,861	121	1,248	83	708	291	4,669	148	1,325	266	587	112	2,093	396	202	104	82	205	305	123
1943	225	131	52	70	979	136	102	59	1,886	123	1,484	99	877	361	5,997	190	1,754	352	957	183	2,338	443	307	158	90	225	381	154
1944	239	139	74	100	1,001	139	152	88	1,900	124	1,831	122	624	257	6,453	204	1,600	321	1,101	210	2,279	432	445	229	98	245	434	176
1945	202	117	57	77	844	117	111	64	1,979	129	1,295	86	457	188	4,190	133	1,007	202	640	122	1,469	278	267	138	69	173	225	91
1946	191	111	43	58	868	120	85	49	2,013	131	1,222	81	308	127	4,703	149	523	105	621	119	940	178	240	124	67	168	198	80
1947	221	128	41	55	1,061	147	81	47	2,245	146	1,089	72	347	143	3,831	121	558	112	484	92	964	183	204	105	77	193	160	65
1948	173	101	40	54	975	135	78	45	1,759	115	973	65	257	106	3,524	111	396	80	411	78	834	158	194	100	59	148	165	67
1949	190	110	36	49	1,116	155	73	42	2,193	143	1,056	70	303	125	3,775	119	459	92	444	85	847	160	229	118	55	138	168	68
1950 3/	207	120	34	46	1,250	173	68	39	2,213	144	1,139	76	269	111	3,911	124	434	87	413	79	810	153	192	99	64	160	155	63

1/ Numbers in Canada as of June 1; in United States as of January 1.
2/ Nova Scotia, New Brunswick, Prince Edward Island.
3/ Preliminary.

Sources: See Table 2.

Table 12.-Pig Crops: Number and Index, Canada and the United States, 1935-50

(Index: 1935=100)

Year	Canada 1/				United States 2/			
	Spring	Fall	Total		Spring	Fall	Total	
	Thousands	Thousands	Thousands	Index	Millions	Millions	Millions	Index
1935	2,539	2,592	5,131	100	32.9	23.3	56.1	100
1936	3,090	2,978	6,068	118	41.4	24.3	65.7	117
1937	2,842	2,296	5,138	100	38.5	24.0	62.5	111
1938	2,496	2,341	4,837	94	43.3	28.6	71.9	128
1939	3,174	3,208	6,382	124	53.2	33.7	87.0	155
1940	4,434	4,132	8,566	167	49.6	30.3	79.9	142
1941	4,492	4,423	8,915	174	49.4	35.6	85.0	151
1942	5,696	5,299	10,995	214	61.1	43.8	104.9	187
1943	6,218	6,610	12,829	252	74.2	47.6	121.8	217
1944	5,890	5,251	11,141	217	55.8	30.9	86.7	154
1945	4,651	4,163	8,814	122	52.2	34.6	86.8	154
1946	3,827	4,066	7,993	156	52.4	30.5	82.9	148
1947	4,252	3,848	8,100	158	52.8	31.3	84.1	150
1948	3,374	3,336	6,710	131	51.3	33.9	85.2	152
1949	4,062	4,019	8,081	158	58.4	37.2	95.6	171
1950	4,054	3,949	8,003	156	60.0	40.7	100.7	180

1/ Sum of pigs under 6 months on June 1 and December 1.
2/ Sum of pigs saved, spring and fall seasons.

Sources: See Table 2.

Table 13.-Sheep: Number and Index, Canada, U.S. Border States, and United States Total, 1901 and 1910-50 1/

(Index: 1910-29=100)

Year	Canada		U.S. Border States 2/		United States Total 2/	
	Number	Index	Number	Index	Number	Index
	1,000		1,000		1,000	
1901	-	-	9,972	156	46,126	121
1910	2,246	84	9,300	146	46,939	123
1911	2,174	81	9,282	146	46,055	121
1912	2,172	81	8,755	137	42,972	113
1913	2,333	87	8,030	126	40,544	106
1914	2,310	87	6,968	109	38,059	100
1915	2,359	88	6,418	101	36,263	95
1916	2,334	87	6,042	95	36,260	95
1917	2,422	91	5,532	87	35,246	93
1918	2,636	99	5,562	87	36,704	96
1919	2,949	111	5,993	94	38,360	101
1920	3,179	119	5,562	87	37,328	98
1921	3,200	120	4,878	76	35,426	93
1922	3,045	114	4,834	76	33,365	88
1923	2,601	97	4,730	74	32,597	86
1924	2,499	94	4,789	75	32,859	86
1925	2,628	99	5,135	81	34,469	91
1926	2,830	106	5,614	88	35,719	94
1927	2,968	111	6,049	95	38,067	100
1928	3,128	117	6,692	105	40,689	107
1929	3,350	126	7,403	116	43,481	114
20-yr. ave. (1910-29)	2,668	100	6,378	100	38,070	100
1930	3,438	129	7,835	123	45,577	120
1931	3,627	136	8,046	126	47,720	125
1932	3,604	135	7,770	122	47,682	125
1933	3,307	124	7,890	124	47,303	124
1934	3,291	123	8,121	127	48,244	127
1935	3,224	121	7,611	119	46,139	121
1936	3,159	118	7,186	113	45,435	119
1937	3,071	115	6,658	104	45,251	119
1938	3,047	114	6,462	101	44,972	118
1939	2,911	109	6,735	106	45,463	119
1940	2,887	108	7,212	113	46,266	122
1941	2,840	106	7,573	119	47,441	125
1942	3,197	120	7,853	123	49,346	130
1943	3,459	130	7,590	119	48,196	127
1944	3,726	140	6,939	109	44,270	116
1945	3,622	136	5,922	93	39,609	104
1946	2,942	110	5,048	79	35,599	94
1947	2,707	101	4,326	68	32,125	84
1948	2,247	84	3,965	62	29,976	79
1949	2,075	78	3,690	58	27,651	73
1950	2,015	76	3,356	53	27,099	71

1/ Numbers in Canada as of June 1, in United States as of January 1.

2/ Stock Sheep.

Sources: See Table 2.

Table 14. - Sheep: Number and Index, by Canadian Provinces and U.S. Border States, 1901 and 1910-50 1/

(Index: 1910-29 = 100)

Year	Maritime Provinces 2/		Maine		Quebec		Maine, New Hamp., Vermont		Ontario		Stock Sheep: New York, Michigan		Manitoba		Stock Sheep: Minnesota, North Dakota		Saskatchewan		Stock Sheep: North Dakota		Alberta		Stock Sheep: Montana		British Columbia		Stock Sheep Washington	
	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index
	1,000		1,000		1,000		1,000		1,000		1,000		1,000		1,000		1,000		1,000		1,000		1,000		1,000		1,000	
1901	-	-	265	225	-	-	508	253	-	-	2,813	175	-	-	929	130	-	-	528	185	-	-	4,977	151	-	-	745	133
1910	503	110	164	139	656	90	290	144	740	89	2,361	148	37	39	768	108	128	85	288	101	142	42	5,385	164	41	65	476	85
1911	471	103	166	141	637	88	290	144	742	89	2,579	160	37	39	704	99	114	75	256	90	134	39	5,223	159	39	62	486	86
1912	446	98	166	141	635	87	290	144	749	90	2,411	150	46	48	606	85	112	74	225	79	144	42	4,962	151	41	65	486	86
1913	424	93	162	137	752	103	278	138	750	90	2,086	130	53	55	550	77	110	73	215	75	198	58	4,615	140	46	73	501	89
1914	405	89	148	125	727	100	245	122	712	86	1,764	110	60	63	530	74	118	78	195	68	242	71	3,923	119	46	73	506	90
1915	398	87	135	114	720	99	217	108	719	86	1,569	97	72	75	477	67	122	81	175	61	281	82	3,609	110	48	76	546	97
1916	395	86	125	106	658	91	208	103	737	89	1,516	94	77	80	502	71	124	82	200	70	295	86	3,248	99	48	76	568	101
1917	402	88	125	106	677	93	202	100	794	95	1,437	89	77	80	547	77	136	90	215	75	283	83	2,761	84	51	81	585	104
1918	457	100	126	107	745	102	207	103	825	99	1,519	94	126	131	625	88	142	94	245	86	287	84	2,550	77	53	84	661	118
1919	506	111	127	108	790	109	215	107	956	115	1,565	97	150	156	723	102	154	102	275	96	340	99	2,750	84	53	84	740	132
1920	595	130	119	101	836	115	210	104	1,001	120	1,509	94	137	143	728	102	168	111	299	105	387	113	2,420	73	55	87	695	124
1921	565	124	99	84	856	118	176	88	979	118	1,280	80	113	118	703	99	195	129	254	89	432	126	2,149	65	61	97	570	101
1922	533	117	86	73	842	116	148	74	894	107	1,206	75	110	115	605	85	204	135	203	71	410	120	2,380	72	52	83	495	88
1923	445	97	83	70	708	97	142	71	823	99	1,201	75	88	92	575	81	150	99	204	71	335	98	2,312	70	51	81	500	89
1924	440	96	84	71	702	97	144	72	791	95	1,165	72	88	92	620	87	139	92	235	82	290	85	2,359	72	48	76	501	89
1925	440	96	89	75	711	98	147	73	790	95	1,273	79	92	96	707	99	154	102	286	100	389	114	2,474	75	52	83	534	95
1926	443	97	95	81	716	98	157	78	808	97	1,327	82	113	118	834	117	162	107	354	124	505	148	2,750	84	83	132	546	97
1927	418	91	92	78	722	99	156	78	873	105	1,416	88	133	139	980	138	176	117	438	153	545	159	2,923	89	102	162	574	102
1928	435	95	92	78	722	99	157	78	928	112	1,486	92	138	144	1,129	159	194	128	524	183	582	170	3,300	100	129	205	620	110
1929	425	93	84	71	720	99	146	73	1,035	124	1,508	94	174	181	1,336	188	225	149	641	224	618	181	3,758	114	152	241	655	117
20-yr.ave: (1910-29):	457	100	118	100	727	100	201	100	832	100	1,610	100	96	100	712	100	151	100	286	100	342	100	3,293	100	63	100	562	100
1930	428	94	83	70	723	99	145	72	1,040	125	1,495	93	212	221	1,560	219	231	153	760	266	659	193	3,940	120	144	229	695	124
1931	418	91	85	72	734	101	145	72	1,045	126	1,473	91	217	226	1,714	241	281	186	850	297	786	230	4,020	122	147	233	694	123
1932	353	77	79	68	737	101	136	68	1,025	123	1,445	90	198	206	1,872	263	295	195	965	337	848	248	3,660	111	147	233	657	117
1933	329	72	70	59	640	88	122	61	973	117	1,435	89	217	226	1,783	251	320	212	881	308	688	201	3,860	117	139	221	685	122
1934	308	67	65	55	576	79	111	55	920	111	1,430	89	214	223	1,824	256	360	252	881	308	735	215	4,060	123	157	249	696	124
1935	287	63	59	50	615	85	101	50	890	107	1,385	86	217	226	1,675	235	374	248	725	253	688	201	3,740	114	154	244	710	126
1936	283	62	50	42	590	81	89	44	819	98	1,350	84	208	217	1,667	234	342	226	746	261	766	224	3,405	103	151	240	675	120
1937	283	62	48	41	579	80	85	42	793	95	1,334	83	219	228	1,793	252	316	209	752	263	731	214	2,792	85	151	240	654	116
1938	291	64	45	38	575	79	79	39	762	92	1,264	79	236	246	1,772	248	284	188	752	263	754	220	2,736	83	144	229	611	109
1939	282	62	45	38	541	74	79	39	736	88	1,214	75	238	248	1,767	248	266	176	767	268	719	210	3,064	93	130	206	611	109
1940	276	60	43	36	528	73	73	36	695	84	1,188	74	244	254	1,900	267	289	191	870	304	725	212	3,462	105	130	206	589	105
1941	275	60	41	35	526	72	71	35	662	80	1,156	72	246	256	2,116	297	330	219	983	344	675	197	3,635	110	126	200	595	106
1942	290	63	41	35	544	75	71	35	689	83	1,093	68	311	324	2,253	316	410	272	1,052	368	828	242	3,853	117	126	200	583	104
1943	325	71	43	36	574	79	74	37	738	89	1,064	66	327	340	2,221	312	463	307	1,020	357	900	263	3,660	111	132	210	571	102
1944	330	72	42	36	637	88	73	36	737	89	966	60	319	332	2,048	288	531	352	898	314	1,023	299	3,367	102	148	235	485	86
1945	334	73	36	31	649	89	61	30	724	87	820	51	288	300	1,749	246	513	340	754	264	975	285	2,862	87	139	221	430	77
1946	314	69	32	27	595	82	54	27	701	84	697	43	206	215	1,484	206	335	222	618	216	667	195	2,433	74	125	198	400	71
1947	282	62	28	24	572	79	48	24	668	80	599	37	181	189	1,247	175	285	189	519	181	614	180	2,068	63	106	168	364	65
1948	253	55	24	20	475	65	44	22	572	69	574	36	141	147	1,093	154	253	168	452	158	449	131	1,923	58	105	167	331	59
1949	235	51	21	17	429	59	40	20	512	62	504	31	131	136	957	134	234	155	380	133	442	129	1,865	57	93	148	324	58
1950 3/...	250	55	21	18	398	55	40	20	504	61	494	31	117	122	917	129	237	157	346	121	414	121	1,623	49	95	151	305	54

1/ Numbers in Canada as of June 1, in United States as of January 1.
2/ Nova Scotia, New Brunswick, Prince Edward Island.
3/ Preliminary.

Sources: See Table 2.

Table 15.-Horses: 1/ Number and Index, Canada, U.S. Border States and United Statee Total, 1901 and 1910-50 2/

(Index: 1910-29 = 100)

Year	Canada		U.S. Border States		United States Total	
	Number	Index	Number	Index	Number	Index
	1,000		1,000		1,000	
1901	-	-	3,041	80	21,145	87
1910	2,478	78	3,470	91	24,211	99
1911	2,599	82	3,574	94	24,847	102
1912	2,694	85	3,696	97	25,277	104
1913	2,827	89	3,809	100	25,691	105
1914	2.992	94	3,948	104	26,178	107
1915	3,115	98	4,081	107	26,493	109
1916	3,167	100	4,174	110	26,534	109
1917	3,210	101	4,257	112	26,659	109
1918	3,346	106	4,308	113	26,723	110
1919	3,445	109	4,297	113	26,490	109
1920	3,404	107	4,166	109	25,742	106
1921	3,452	109	4,053	106	25,137	103
1922	3,401	107	3,961	104	24,588	101
1923	3,341	105	3,863	101	24,018	98
1924	3,384	107	3,720	98	23,285	95
1925	3,348	106	3,585	94	22,569	93
1926	3,361	106	3,472	91	21,986	90
1927	3,297	104	3,350	88	21,192	87
1928	3,265	103	3,239	85	20,448	84
1929	3,264	103	3,113	82	19,744	81
20-yr. ave. (1910-29)	3,170	100	3,807	100	24,391	100
1930	3,191	101	3,001	79	19,124	78
1931	3,114	98	2,909	76	18,468	76
1932	3,084	97	2,793	73	17,812	73
1933	2,973	94	2,725	72	17,337	71
1934	2,918	92	2,686	71	16,997	70
1935	2,911	92	2,630	69	16,683	68
1936	2,878	91	2,515	66	16,226	67
1937	2,845	90	2,391	63	15,802	65
1938	2,770	87	2,283	60	15,245	63
1939	2,761	87	2,200	58	14,792	61
1940	2,780	88	2,156	57	14,478	59
1941	2,789	88	2,101	55	14,104	58
1942	2,816	89	2,032	53	13,655	56
1943	2,775	88	1,956	51	13,231	54
1944	2,735	86	1,819	48	12,613	52
1945	2,585	82	1,691	44	11,950	49
1946	2,200	69	1,518	40	11,063	45
1947	2,032	64	1,335	35	10,021	41
1948	1,904	60	1,183	31	9,130	37
1949	1,796	57	1,061	29	8,246	34
1950	1,683	53	942	25	7,423	30

1/ Canada: horees only, United Statee: horees and mulee.

2/ Numbers in Canada as of June 1, in United States as of January 1.

Sources: See Table 2.

Table 16. - Horses1/: Number and Index, by Canadian Provinces and U.S. Border States, 1901 and 1910-50 2/

(Index: 1910-29 = 100)

Year	Maritime Provinces3/		Maine		Quebec		Maine, New Hamp., Vermont		Ontario		New York, Michigan		Manitoba		Minnesota, North Dakota		Saskatchewan		North Dakota		Alberta		Montana		British Columbia		Washington	
	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index	No.	Index
	1,000		1,000		1,000		1,000		1,000		1,000		1,000		1,000		1,000		1,000		1,000		1,000		1,000		1,000	
1901	-	-	102	110	-	-	238	117	-	-	1,196	108	-	-	1,066	64	-	-	382	50	-	-	314	58	-	-	227	78
1910	163	109	107	115	371	108	234	115	794	112	1,203	109	268	81	1,417	85	462	51	658	86	365	55	324	60	54	87	292	100
1911	163	109	106	114	372	108	232	114	812	114	1,220	111	280	85	1,467	88	508	56	678	89	407	61	355	66	57	92	300	103
1912	161	107	105	113	365	106	229	113	808	114	1,235	112	295	89	1,544	92	576	64	704	92	430	64	380	70	60	97	308	106
1913	160	107	106	114	362	105	228	112	808	114	1,243	113	307	93	1,631	98	645	71	720	94	483	72	395	73	62	100	312	107
1914	159	106	106	114	360	104	229	113	822	116	1,255	114	321	97	1,740	104	729	81	759	99	539	81	411	76	63	102	313	108
1915	159	106	105	113	355	103	229	113	816	115	1,272	115	323	98	1,810	108	812	90	794	104	586	88	451	84	64	103	319	110
1916	159	106	100	108	353	102	222	109	802	113	1,276	116	325	98	1,871	112	834	92	839	110	630	94	487	90	65	105	318	109
1917	157	105	97	104	352	102	218	107	782	110	1,263	114	338	102	1,891	113	856	95	859	112	660	99	567	105	65	105	318	109
1918	162	108	96	103	362	105	216	106	738	104	1,244	113	358	108	1,869	112	948	105	861	112	720	108	658	122	59	95	321	110
1919	170	113	95	102	379	110	214	105	714	101	1,223	111	341	103	1,846	111	1,019	113	862	113	764	114	694	129	59	95	320	110
1920	163	109	94	101	362	105	209	103	690	97	1,155	105	312	94	1,805	108	1,048	116	804	113	771	115	678	126	60	97	319	110
1921	149	99	92	99	333	97	206	101	669	94	1,102	100	356	96	1,763	106	1,078	119	838	109	806	120	678	126	61	98	304	104
1922	144	96	90	97	322	93	199	98	661	93	1,069	97	371	112	1,739	104	1,055	117	823	107	785	117	660	122	63	102	294	101
1923	133	89	88	95	318	92	194	96	649	91	1,036	94	355	108	1,698	102	1,049	116	799	104	773	116	653	121	64	103	282	97
1924	134	89	85	91	321	93	186	92	641	90	1,000	91	358	108	1,635	98	1,081	120	770	101	788	118	622	115	62	100	277	95
1925	134	89	84	90	321	93	180	89	622	88	936	85	345	105	1,593	95	1,080	119	740	97	784	117	607	112	62	100	269	92
1926	137	91	80	86	322	93	171	84	608	86	894	81	341	103	1,564	94	1,104	122	724	95	784	117	587	109	64	103	256	88
1927	132	88	78	84	324	94	164	81	596	84	846	77	328	99	1,539	92	1,081	120	698	91	773	116	658	103	63	102	243	84
1928	131	87	74	80	324	94	156	77	589	83	808	73	333	101	1,507	90	1,066	118	674	88	761	114	535	99	61	98	233	80
1929	129	86	67	72	321	93	145	71	586	83	773	70	342	104	1,469	88	1,058	117	661	85	765	114	507	94	62	100	219	75
20-yr. ave. (1910-29)	150	100	93	100	345	100	203	100	710	100	1,103	100	330	100	1,670	100	904	100	766	100	669	100	540	100	62	100	291	100
1930	128	95	63	68	312	90	138	68	587	83	741	67	341	103	1,446	87	1,024	113	624	81	740	111	470	87	59	95	206	71
1931	124	85	61	66	301	87	133	66	577	81	727	66	325	98	1,417	85	997	110	612	80	732	109	437	81	57	92	195	67
1932	124	83	59	63	300	87	128	63	576	81	719	65	340	103	1,352	81	962	106	563	73	726	109	406	75	57	92	188	65
1933	120	80	56	60	272	79	123	61	570	80	712	65	304	92	1,312	79	944	104	538	70	706	106	393	73	57	92	185	64
1934	115	77	54	58	272	79	119	59	557	78	704	64	292	88	1,292	77	929	103	527	69	693	100	384	71	55	89	187	64
1935	113	75	52	56	276	80	116	57	554	78	704	64	292	88	1,267	76	929	103	508	66	692	103	351	65	56	90	192	66
1936	108	72	50	54	282	82	113	56	551	78	695	63	304	92	1,204	72	898	99	467	61	677	101	315	58	56	90	188	65
1937	112	75	48	52	294	85	109	54	544	77	695	63	315	95	1,146	69	863	95	424	55	660	99	269	50	56	90	172	59
1938	110	73	45	48	307	89	106	52	544	77	688	62	313	95	1,090	65	791	88	390	51	645	96	242	45	60	97	157	54
1939	111	74	42	45	317	92	101	50	540	76	673	61	301	91	1,034	62	779	86	362	47	652	97	242	45	60	97	150	52
1940	110	73	39	42	328	95	96	47	538	76	655	59	306	93	1,013	61	787	87	362	47	649	97	252	47	62	100	140	48
1941	109	73	38	41	333	97	94	46	532	75	627	57	302	92	989	59	801	89	358	47	649	97	257	48	63	102	134	46
1942	110	73	36	39	335	97	91	45	527	74	588	53	305	92	965	58	830	92	354	46	647	97	260	48	62	100	128	44
1943	110	73	36	39	330	96	91	45	522	74	555	50	298	90	922	55	824	91	342	45	628	94	265	49	62	100	123	42
1944	110	73	36	39	344	100	91	45	507	71	511	46	290	88	854	51	820	91	315	41	604	90	252	47	62	100	111	38
1945	108	72	36	39	314	91	90	44	491	69	473	43	264	80	788	47	783	87	287	37	564	84	237	44	60	97	103	35
1946	105	70	35	38	318	92	88	43	467	66	430	39	215	65	691	41	570	63	241	31	469	70	218	40	57	92	91	31
1947	100	67	33	35	317	92	84	41	451	64	379	34	195	59	598	36	505	56	203	27	411	61	192	36	53	85	82	28
1948	98	65	33	35	314	91	79	39	423	60	329	30	179	54	526	31	463	51	179	23	377	56	177	33	51	82	72	25
1949	95	63	30	32	303	88	72	35	402	57	295	27	164	50	470	28	434	48	165	22	349	52	160	30	49	79	64	22
1950	92	61	24	26	288	83	64	32	378	53	248	22	156	47	415	25	404	45	150	20	319	48	147	27	46	74	56	19

1/ Canada: horses only; United States: horses and mules.
2/ Numbers in Canada as of June 1, in United States as of January 1.
3/ Nova Scotia, New Brunswick, Prince Edward Island.

Sources: See Table 2.

Table 17.-Horses: Value per Head, Canada, U.S. Border States, and United States Total, 1901 and 1910-50

(Index: 1910-29=100)

Year	Canada		U.S. Border States		United States Total	
	Can$ per head	Index	US$ per head	Index	US$ per head	Index
1901	-	-	53	54	53	60
1910	132	131	108	110	108	121
1911	147	146	112	114	111	125
1912	n.a.	n.a.	113	115	106	119
1913	n.a.	n.a.	119	121	111	125
1914	127	126	121	123	109	122
1915	126	125	113	115	103	116
1916	129	128	112	114	101	113
1917	126	125	114	116	103	116
1918	127	126	119	121	104	117
1919	118	117	108	110	98	110
1920	106	105	103	105	96	108
1921	120	119	91	93	84	94
1922	73	72	81	83	71	80
1923	64	63	80	82	70	79
1924	64	63	76	78	65	73
1925	69	68	73	74	64	72
1926	72	71	74	76	65	73
1927	76	75	74	76	64	72
1928	75	74	79	81	67	75
1929	69	68	82	84	70	79
20-yr. ave. (1910-29)	1/ 101	100	98	100	89	100
1930	60	59	83	85	70	79
1931	66	65	72	73	61	69
1932	46	46	65	66	53	60
1933	52	51	63	64	54	61
1934	57	56	75	77	67	75
1935	65	64	85	87	77	87
1936	72	71	103	105	97	109
1937	72	71	107	109	99	111
1938	71	70	100	102	91	102
1939	67	66	95	97	84	94
1940	63	62	89	91	77	87
1941	66	65	81	83	68	76
1942	69	68	77	79	65	73
1943	80	79	89	91	80	90
1944	75	74	86	88	79	89
1945	69	68	74	76	65	73
1946	75	74	68	69	57	64
1947	78	77	65	66	59	66
1948	77	76	60	61	56	63
1949	75	74	57	58	52	58
1950	-	-	45	46	46	52

1/ For 18 years only.

Sources: See Table 2.

Table 18. - Horses: Value per Head, by Canadian Provinces and U.S. Border States, 1901 and 1910-50

(Index: 1910-29 = 100)

Year	Maritime Provinces 1/		Maine		Quebec		Maine, New Hamp., Vermont		Ontario		New York, Michigan		Manitoba		Minnesota, North Dakota		Saskatchewan		North Dakota		Alberta		Montana		British Columbia		Washington	
	Can$ per head	Index	US$ per head	Index	Can$ per head	Index	US$ per head	Index	Can$ per head	Index	US$ per head	Index	Can$ per head	Index	US$ per head	Index	Can$ per head	Index	US$ per head	Index	Can$ per head	Index	US$ per head	Index	Can$ per head	Index	US$ per head	Index
1901	-	-	68	49	-	-	65	51	-	-	70	59	-	-	61	68	-	-	59	70	-	-	24	38	-	-	44	51
1910	n.a.	n.a.	125	91	n.a.	n.a.	112	88	n.a.	n.a.	126	106	n.a.	n.a.	112	124	n.a.	n.a.	114	136	n.a.	n.a.	80	125	n.a.	n.a.	108	124
1911	119	108	124	90	151	113	121	95	140	132	130	109	168	160	115	128	175	168	110	131	139	176	87	136	136	139	108	124
1912	n.a.	n.a.	127	92	n.a.	n.a.	125	98	n.a.	n.a.	132	111	n.a.	n.a.	115	128	n.a.	n.a.	114	136	n.a.	n.a.	87	136	n.a.	n.a.	107	123
1913	n.a.	n.a.	139	101	n.a.	n.a.	130	102	n.a.	n.a.	137	115	n.a.	n.a.	124	138	n.a.	n.a.	124	148	n.a.	n.a.	93	145	n.a.	n.a.	110	126
1914	123	112	150	109	135	116	139	109	116	109	142	119	131	125	118	131	148	142	112	133	108	137	102	159	119	121	106	122
1915	121	110	146	106	112	97	135	105	120	113	137	115	133	127	113	126	147	141	110	131	113	143	86	134	102	104	96	110
1916	107	97	142	103	115	99	135	105	125	118	134	113	128	122	110	122	150	144	110	131	122	154	86	134	108	110	94	108
1917	108	98	158	110	132	114	140	109	113	107	130	109	138	131	108	120	138	133	106	126	122	154	92	144	118	120	98	113
1918	120	109	163	118	131	113	153	120	111	105	132	111	141	134	104	116	149	143	102	121	107	135	98	143	123	126	108	124
1919	127	115	154	112	134	116	146	114	110	104	122	103	131	125	96	107	130	125	93	111	94	119	84	131	129	132	92	106
1920	123	112	157	114	128	110	148	116	108	102	122	103	114	109	88	98	108	104	83	99	80	101	61	95	126	129	96	110
1921	133	121	148	107	142	122	135	105	123	116	114	96	134	128	75	83	126	121	64	76	94	119	50	78	97	99	83	113
1922	99	90	126	91	100	86	117	91	90	85	108	91	84	80	67	74	67	64	57	68	42	53	42	66	78	80	71	82
1923	92	84	124	90	97	84	115	90	84	79	106	89	64	61	68	76	53	51	58	69	40	51	39	61	75	77	71	82
1924	95	86	124	90	98	84	115	90	80	75	96	81	62	59	62	69	60	58	51	61	38	48	33	52	71	72	72	83
1925	93	85	119	86	98	84	109	85	89	84	96	81	69	66	66	73	66	63	56	67	43	54	32	50	75	77	63	72
1926	98	89	129	93	101	87	113	88	95	90	100	84	70	67	68	76	66	63	56	67	45	57	29	45	78	80	62	71
1927	105	95	130	94	106	91	115	90	101	95	99	83	77	73	65	72	66	63	53	63	52	66	30	47	78	80	62	71
1928	111	101	135	98	108	93	125	98	99	93	107	90	75	71	66	73	65	63	54	65	51	65	31	48	76	78	65	75
1929	104	95	140	101	106	91	128	100	94	89	117	98	64	61	68	76	56	54	53	63	49	62	31	48	77	79	68	78
20-yr. ave. (1910-29)	2/110	100	138	100	2/116	100	128	100	2/106	100	119	100	2/105	100	90	100	2/104	100	84	100	2/79	100	64	100	2/98	100	87	100
1930	97	88	143	104	95	82	134	105	81	76	120	101	52	50	67	74	50	48	52	62	41	52	30	47	72	73	63	72
1931	102	93	115	83	104	90	112	88	88	83	106	89	62	59	58	64	54	52	44	52	46	58	27	42	55	56	55	63
1932	72	65	114	83	90	76	104	81	63	59	99	83	38	36	48	53	34	33	41	49	28	35	23	36	54	55	49	56
1933	77	70	104	75	96	83	95	74	75	71	94	79	45	43	52	58	38	36	46	55	32	41	24	38	55	56	48	55
1934	82	75	116	84	107	92	106	83	81	76	107	90	48	47	62	69	42	37	55	65	39	49	35	55	56	57	63	72
1935	92	84	135	98	120	103	124	97	92	87	117	98	54	51	66	73	49	47	54	65	42	53	39	61	58	59	78	90
1936	98	89	155	112	112	97	142	111	105	99	140	118	62	59	88	98	56	54	77	92	50	63	54	84	65	66	93	107
1937	102	93	159	115	117	101	148	116	103	97	149	125	64	61	90	100	53	51	77	92	49	62	54	84	70	71	92	106
1938	103	94	156	113	114	98	145	113	102	96	142	119	58	55	82	91	50	48	69	82	49	62	49	77	73	74	81	93
1939	105	95	152	110	109	94	144	113	92	87	136	114	56	53	72	80	50	48	61	73	45	57	53	83	75	77	68	78
1940	98	89	156	113	117	101	149	116	80	75	121	102	50	48	67	74	45	43	57	68	43	54	45	70	76	78	61	70
1941	104	95	145	105	112	97	138	108	86	81	108	91	54	51	60	67	50	48	50	60	47	59	41	64	58	59	57	66
1942	111	101	149	108	114	98	138	108	88	83	96	81	55	52	56	62	52	50	46	55	50	63	37	58	62	63	57	66
1943	131	119	163	118	138	119	157	123	109	103	114	96	65	62	65	72	55	53	52	62	55	70	42	66	103	105	65	75
1944	132	120	159	115	137	118	157	123	102	96	112	94	59	56	64	71	48	46	50	60	49	62	37	58	101	103	62	71
1945	134	122	153	111	134	116	144	113	95	90	87	73	53	50	48	53	40	38	37	44	41	52	33	52	96	98	60	69
1946	138	125	153	111	134	116	140	109	98	92	77	65	53	50	36	40	42	40	25	30	45	57	29	45	100	102	60	69
1947	130	118	143	104	131	113	136	106	99	93	72	61	59	56	38	42	45	43	30	36	48	61	33	52	98	100	48	55
1948	123	112	120	87	125	108	109	85	95	90	65	55	58	55	41	46	46	44	36	43	50	63	30	47	102	104	53	61
1949	119	108	112	81	120	103	88	69	91	86	65	55	59	56	46	51	45	43	38	45	49	62	32	50	98	100	55	63
1950	-	-	75	54	-	-	63	49	-	-	55	46	-	-	40	44	-	-	34	40	-	-	26	41	-	-	41	47

1/ Nova Scotia, New Brunswick, Prince Edward Island.
2/ Average for 17 years only.

Sources: See Table 2.

Table 19.-Animal Units: 1/ Number and Index, Canada and the United States, 1901, 1906, 1910, and 1915-50 2/

(Index: 1920-29 = 100)

Year	Canada		United States	
	Number	Index	Number	Index
	Thousands		Thousands	
1901	7,193	63.4	88,282	94.6
1906	9,017	80.3	91,990	98.5
1910	8,935	79.6	88,961	95.2
1915	10,223	91.0	95,629	102.5
1916	10,499	93.4	99,220	106.3
1917	10,734	95.4	101,378	108.5
1918	11,307	100.6	104,233	111.6
1919	11,624	103.5	103,837	111.0
1920	11,277	100.4	100,827	108.0
1921	11,550	102.5	98,562	105.7
1922	11,457	102.2	98,048	105.0
1923	11,226	100.0	98,489	105.5
1924	11,503	102.4	96,137	103.0
1925	11,265	100.4	91,521	98.2
1926	11,215	99.8	88,285	94.6
1927	11,058	97.5	86,577	92.8
1928	10,900	97.1	86,803	93.8
1929	10,918	97.3	87,126	93.4
Average (1920-29)	11,237	100	93,238	100.0
1930	10,924	97.3	87,963	94.3
1931	11,311	100.7	89,051	95.4
1932	11,760	104.8	91,715	98.3
1933	11,779	104.9	95,322	102.2
1934	11,828	105.4	97,650	104.7
1935	11,718	104.3	88,868	95.2
1936	11,657	103.9	88,141	94.5
1937	11,684	104.0	85,257	92.6
1938	11,142	99.4	85,331	91.3
1939	11,184	99.8	86,628	93.0
1940	11,524	102.6	90,431	97.0
1941	11,637	103.5	91,624	98.3
1942	12,254	109.2	96,119	103.0
1943	13,017	116.0	102,313	109.6
1944	13,472	119.8	106,381	114.0
1945	13,294	118.3	100,520	107.8
1946	11,712	104.2	96,914	103.8
1947	11,665	104.0	92,400	99.0
1948	11,099	98.8	89,100	95.5
1949	10,794	96.0	88,200	94.4
1950	10,620	94.6	89,700	96.3

1/ Unit equivalents: Horses, mules, milk cows - 1.00; cattle other than milk cows - 0.75; hogs 0.20; sheep - 0.12.

2/ Numbers in Canada as of June 1, in the United States as of January 1.

Table 20.-Per Capita Consumption of Meat and Lard, Canada and the United States, 1920-50

Year	Beef		Veal		Pork		Lamb and Mutton		Total meat		Lard		Total meat (incl. canned) Canada
	U.S.	Canada	U.S.	Canada	U.S.	Canada	U.S.	Canada	U.S.	Canada	U.S.	Canada	
	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.
1920	58.7	57.4	7.9	6.7	63.1	42.1	5.4	5.6	135.0	111.8	12.3	9.3	-
1921	55.1	51.2	7.5	6.4	64.3	41.7	6.1	6.3	133.0	105.6	11.1	9.6	-
1922	58.6	58.2	7.7	7.4	65.3	48.6	5.1	6.0	136.7	120.2	13.6	8.2	-
1923	59.2	57.2	8.1	6.9	73.7	50.5	5.3	7.4	146.3	123.2	14.6	9.1	-
1924	59.1	53.0	8.5	7.5	73.5	54.8	5.2	5.3	146.3	120.6	14.5	8.2	-
1925	59.1	56.0	8.5	8.3	66.3	53.3	5.2	5.3	139.1	122.9	12.5	8.0	-
1926	59.9	55.2	8.1	7.8	63.7	53.5	5.4	4.9	137.1	121.4	12.4	7.9	-
1927	54.1	54.5	7.3	7.8	67.2	54.5	5.3	5.6	133.9	122.4	12.9	7.8	-
1928	48.4	50.5	6.4	8.2	70.5	58.4	5.5	5.5	130.8	122.6	13.4	8.3	-
1929	49.3	51.1	6.3	8.1	69.2	58.0	5.6	5.8	130.4	123.0	13.0	8.6	-
1930	48.6	49.1	6.4	9.5	66.6	52.8	6.7	6.5	128.3	117.9	12.8	8.4	-
1931	48.3	48.5	6.6	8.5	67.9	51.9	7.1	5.9	129.9	114.8	13.7	8.2	-
1932	46.4	45.5	6.6	8.5	70.3	55.3	7.0	6.1	130.3	115.4	14.4	8.2	-
1933	51.2	45.8	7.1	9.1	70.3	52.0	6.7	5.7	135.3	112.6	14.0	6.9	-
1934	63.5	50.6	9.3	10.4	64.0	47.4	6.3	6.0	143.1	114.4	13.0	6.4	-
1935	52.9	53.6	8.5	9.8	48.1	39.3	7.2	6.0	116.7	108.7	9.6	3.9	110.4
1936	60.1	55.1	8.3	10.2	54.8	41.4	6.6	5.6	129.8	112.3	11.2	3.8	114.3
1937	54.8	54.6	8.6	11.9	55.4	42.5	6.6	5.6	125.4	114.6	10.5	3.5	116.6
1938	54.0	57.2	7.6	10.3	57.8	37.7	6.8	5.4	126.2	110.6	11.0	3.7	112.3
1939	54.4	53.2	7.5	10.4	64.3	38.4	6.6	5.4	132.8	107.4	12.7	4.8	109.5
1940	54.7	54.5	7.4	10.8	73.0	44.7	6.6	4.5	141.7	114.5	14.5	7.0	116.0
1941	60.5	58.3	7.6	11.1	67.9	46.3	6.8	4.9	142.8	120.6	14.2	7.7	123.8
1942	60.8	60.1	8.2	10.8	63.3	53.3	7.2	5.0	139.5	129.2	13.3	9.7	132.3
1943	52.9	69.3	8.2	10.2	78.5	61.0	6.4	4.6	146.0	145.1	14.0	10.4	148.2
1944	55.3	66.6	12.4	11.0	79.2	61.3	6.6	4.8	153.5	143.7	14.1	9.5	146.5
1945	59.0	64.6	11.8	11.9	66.3	50.2	7.3	4.7	144.4	131.4	12.5	8.3	136.2
1946	61.3	67.2	9.9	10.5	75.6	51.3	6.6	4.8	153.4	133.8	12.0	6.8	139.7
1947	69.1	67.2	10.7	9.5	69.8	51.9	5.4	4.8	155.0	133.4	13.4	7.3	139.0
1948	62.6	57.5	9.4	10.9	68.4	53.9	5.0	3.5	145.4	125.8	13.7	7.1	129.3
1949	63.5	56.5	8.7	9.1	67.6	59.2	4.1	3.0	143.9	127.8	12.8	8.2	132.9
1950	63.0	50.5	7.9	9.2	68.8	60.8	4.0	2.5	143.7	123.0	14.4	8.9	128.5

Sources: United States - Livestock, Meats and Wool Statistics, U.S.D.A., 1949, p. 74. Canada - Live Stock and Animal Products Statistics, 1949.

Table 21. - Exports of Cattle and Beef from Canada, Total and to the United States; Average Price of Beef Steers at Chicago and Toronto; and U.S. Duties, 1900-50

Year	Cattle and calves 1/		Cattle	Calves	Beef and veal 2/		Average price of beef steers		U.S. duties
	Total	U.S.	U.S.	U.S.	U.S.	Total	Chicago	Toronto	
	1,000 head	1,000 head	1,000 head	1,000 head	Mil. lb.	Mil. lb.	US$ per cwt.	Can$ per cwt.	
1900	169	46	-	-	-	-	5.15	4.23	1900-12: McKinley tariff.
1901	184	32	-	-	-	-	5.25	4.36	$10 per head of cattle
1902	177	10	-	-	-	-	6.20	4.90	over 1 year old, $2 per
1903	157	4	-	-	-	-	4.80	4.47	head under 1 year.
1904	167	4	-	-	-	-	4.95	4.50	
1905	176	5	-	-	-	-	5.05	4.57	
1906	162	8	-	-	-	-	5.30	4.52	
1907	151	24	-	-	-	-	5.80	4.85	
1908	163	16	-	-	-	-	6.10	4.95	
1909	157	12	-	-	-	-	6.35	5.64	
1910	125	8	-	-	-	-	6.80	6.15	
1911	62	10	-	-	-	-	6.40	5.91	
1912	44	28	-	-	-	-	7.75	6.76	
1913	216	203	181	22	10.9	12.0	8.25	6.99	1913-20: Free
1914	180	178	146	32	17.2	17.8	8.65	8.29	
1915	249	235	179	56	10.2	29.4	8.40	7.99	
1916	157	154	104	60	10.7	45.8	9.50	8.42	
1917	197	195	148	47	12.1	90.6	11.60	11.15	
1918	240	238	201	37	25.6	127.3	14.65	13.29	
1919	546	533	454	79	35.9	112.6	15.50	14.13	
1920	315	311	236	75	38.8	67.9	13.30	12.69	
1921	232	193	135	58	25.3	32.4	8.20	7.58	1921: Emergency 30% ad valorem.
1922	240	218	190	28	18.6	26.4	8.55	7.36	1922-30: Fordney-McCumber.
1923	185	121	97	24	13.1	22.9	9.40	6.95	Over 1,050 lb. - 2 cents;
1924	219	133	98	35	9.8	23.3	9.24	6.75	under 1,050 lb. - 1½ cents.
1925	267	149	86	53	10.1	34.8	10.16	7.35	
1926	242	158	92	66	17.2	28.3	9.47	7.35	
1927	295	283	204	79	53.0	58.4	11.36	8.20	
1928	245	242	166	76	45.1	47.5	13.91	10.48	
1929	254	251	160	91	29.2	31.6	13.43	10.16	
1930	63	55	19	36	5.0	8.2	10.95	8.97	
1931	56	25	9	16	.4	3.8	8.06	5.93	
1932	33	13	8	5	.4	4.6	6.70	5.23	1931-35: Hawley-Smoot.
1933	60	6	5	1	.2	10.2	5.42	4.47	Over 700 lb.- 3 cents.
1934	65	7	6	1	.4	15.2	6.76	4.85	Under 700 lb. - 2½ cents.
1935	134	124	102	22	6.0	13.8	10.26	5.79	
1936	285	242	190	52	1.9	12.7	8.82	5.04	1936-38: U.S. - Canada
1937	322	307	209	98	3.0	17.7	11.47	6.72	Agreement. Over 700 lb.-
1938	179	147	98	49	1.2	5.8	9.39	5.97	2 cents; 175-700 lb. - 2⅜ cents.
1939	233	284	201	83	.9	4.5	9.75	6.77	1939-44: Canada - U.S.
1940	234	230	154	76	.5	3.9	10.43	7.68	Agreement. 200-699 lb.-
1941	254	251	190	61	.9	7.9	11.33	8.70	2⅜ cents; all others -
1942	216	212	158	54	4.3	16.0	13.79	10.29	1½ cents.
1943	63	59	57	2	-	13.5	15.30	11.76	
1944	59	53	52	1	-	107.4	15.44	11.48	1944-50: U.S. - Mexico
1945	80	71	69	2	-	194.8	16.18	11.65	Agreement. All classes -
1946	105	96	95	1	-	138.2	19.16	12.45	1⅜ cents.
1947	83	74	74	-	.1	51.0	25.83	14.28	
1948	457	450	439	11	84.0	133.8	30.88	18.25	
1949	421	418	386	32	99.5	106.9	25.80	20.45	1942-Aug. 1948:
1950 3/	459	457	432	25	81.8	89.0	29.35	24.74	Canadian embargo.

1/ Fiscal year beginning April 1 through 1912; Calendar year beginning 1913.

2/ Equivalent dressed basis.

3/ Preliminary.

10.95

Sources: Live Stock and Animal Products Statistics, Ottawa, Annual Market Review, Ottawa and U.S. Livestock Meats and Wool Market Statistics and Related Data.

Table 22.-Canada: Exports of Hogs and Exports and Imports of Pork Products, 1910-50

Year	Exports of hogs		Exports of pork products 1/		Imports of pork products 2/
	To U.S.	Total	To U.S.	Total	
	Thousand head	Thousand head	Million lb.	Million lb.	Million lb.
1910	0.2	0.4	0.1	51.2	13.4
1911	2.8	3.3	.7	70.4	15.7
1912	.2	1.4	.2	43.9	21.8
1913	.1	.7	.5	28.4	21.7
1914	27.7	28.2	27.6	78.5	11.4
1915	243.0	243.3	5.9	155.4	21.1
1916	9.4	9.9	1.3	211.4	91.4
1917	1.2	1.5	2.7	231.5	124.7
1918	14.9	15.6	3.6	157.4	15.6
1919	31.5	32.1	6.7	254.2	56.7
1920	.5	1.4	2.1	109.4	33.1
1921	2.5	3.2	.8	105.1	52.3
1922	1.7	2.3	.8	100.8	52.0
1923	.3	1.6	1.0	103.6	44.6
1924	26.4	28.2	6.3	128.2	21.1
1925	87.6	89.3	8.3	149.8	15.7
1926	83.0	86.0	9.8	110.0	15.6
1927	194.7	197.1	19.6	82.6	10.4
1928	20.7	23.3	10.9	52.4	13.6
1929	2.0	3.9	6.0	39.0	21.4
1930	.1	2.3	2.8	20.3	19.9
1931	1.4	3.9	2.4	17.4	4.8
1932	1.7	6.0	4.2	45.9	2.4
1933	.1	6.0	1.7	79.1	3.5
1934	-	4.6	.6	123.6	3.9
1935	15.0	19.4	4.3	132.2	.4
1936	69.5	76.5	13.6	174.2	2.7
1937	75.8	82.9	19.7	218.8	1.9
1938	.3	5.5	3.1	178.2	5.5
1939	.1	5.8	2.9	194.7	26.5
1940	.3	7.2	3.6	353.0	37.2
1941	33.9	37.2	11.3	482.0	5.2
1942	.2	6.0	-	537.4	.9
1943	.5	9.3	-	587.5	2.3
1944	.2	9.7	-	717.7	.7
1945	.8	9.2	-	462.0	-
1946	1.5	7.6	-	300.8	.7
1947	3.1	11.2	-	251.2	5.9
1948	2.2	7.4	.2	229.5	1.6
1949	1.4	2.3	.2	76.1	6.7
1950	1.2	1.6	6.4	85.1	5.7

1/ Equivalent dressed basis. Nearly all exports, except to the United States, are of bacon, hams, and sides to Great Britain.

2/ Equivalent dressed basis. Practically all imports are from the United States.

Source: Live Stock and Animal Products Statistics.

Table 23.-Exports of Sheep and Lambs from Canada and the United States, 1890-1950

Year	Exports from Canada 1/		Exports from the United States 2/
	To U.S.	Total	
	Thousand head	Thousand head	Thousand head
1890	245.0	299.3	68
1891	290.1	329.4	61
1892	337.7	360.5	47
1893	207.8	233.4	37
1894	145.8	291.8	132
1895	162.8	391.5	406
1896	224.8	313.4	492
1897	270.2	351.8	244
1898	334.9	405.3	200
1899	374.5	459.9	143
1900	308.8	394.7	126
1901	245.4	348.4	298
1902	278.5	401.4	359
1903	233.0	364.1	177
1904	167.5	288.3	301
1905	196.2	244.0	268
1906	216.4	254.7	143
1907	177.8	227.0	135
1908	94.5	118.9	101
1909	104.3	111.1	68
1910	42.1	46.6	45
1911	16.8	21.4	121
1912	11.5	13.3	157
1913	17.7	20.5	187
1914	41.6	42.8	153
1915	92.9	94.5	47
1916	58.4	59.2	52
1917	134.2	134.7	59
1918	119.0	120.1	8
1919	180.7	182.7	16
1920	182.2	184.0	59
1921	99.4	100.7	81
1922	90.8	92.3	62
1923	28.7	30.6	16
1924	18.7	20.7	9
1925	38.6	40.4	19
1926	20.4	21.8	12
1927	18.6	20.1	13
1928	10.5	11.5	22
1929	10.1	11.1	4
1930	1.6	2.9	16
1931	1.1	2.0	6
1932	.8	1.6	5
1933	1.2	1.9	1
1934	1.4	2.1	1
1935	2.2	3.6	14
1936	2.8	3.5	5
1937	2.2	2.9	2
1938	2.5	3.1	2
1939	3.0	3.3	1
1940	3.7	4.0	1
1941	4.0	4.2	2
1942	5.9	6.0	1
1943	2.8	3.4	3
1944	137.4	137.8	25
1945	100.4	100.9	5
1946	4.4	4.7	11
1947	5.7	6.0	2
1948	51.4	51.9	1
1949	40.9	41.4	1
1950	87.1	87.6	3

1/ Fiscal year beginning July 1 through 1905 and beginning April 1 through 1919, calendar year beginning 1920.

2/ Does not include re-exports. Fiscal year ending June 30 through 1940; calendar year beginning 1941.

Source: Canada - Live Stock and Animal Products Statistics; United States - Livestock Market News, Statistics and Related Data.

Table 24. - United States: Imports of Cattle (including Calves) from Canada, by States of Entry, 1941-50

Year and State of Entry	First 6 Months					Second 6 Months				
	Breeding	Dairy	Feeding	Slaughter	Total	Breeding	Dairy	Feeding	Slaughter	Total
1941										
Maine	114	149	84	90	437	186	631	31	165	1,013
Vermont	1,367	3,189	241	148	4,945	1,849	4,581	582	18	7,030
New York	3,503	1,473	541	37,742	43,259	4,263	3,061	1,115	29,694	38,733
Michigan	1,124	-	46	4,415	5,585	1,724	5	-	6,686	8,415
Minnesota	187	-	6,796	13,779	20,764	48	-	25,746	29,384	54,778
North Dakota	54	11	1,882	4,585	6,532	91	8	13,871	9,301	23,271
Montana	34	2	1,455	346	1,837	214	-	2,451	556	3,221
Washington	795	-	4,521	13,718	19,034	1,104	6	1,568	12,634	15,302
1st 6 mos.	7,178	4,824	15,168	74,823	101,993	10,139	8,292	44,954	88,378	151,763
2nd 6 mos.	10,139	8,292	44,954	88,378	151,763					
Total, 1941	17,317	13,116	60,122	163,201	253,756					
1942										
Maine	161	214	1	216	592	215	796	91	174	1,276
Vermont	1,307	4,512	500	27	6,346	2,150	7,087	585	39	9,861
New York	3,896	3,154	1,083	39,703	47,836	3,997	3,453	803	17,587	25,840
Michigan	1,039	-	3	9,534	10,626	962	2	-	1,563	2,527
Minnesota	37	-	8,681	38,029	46,747	81	-	4,121	5,670	9,872
North Dakota	94	11	2,932	9,436	12,473	45	10	1,853	584	2,692
Montana	369	-	879	459	1,707	303	-	141	22	466
Washington	326	37	3,067	21,865	25,355	785	58	302	3,075	4,221
1st 6 mos.	7,283	7,928	17,146	119,319	151,682	8,539	11,406	7,696	29,114	56,755
2nd 6 mos.	8,539	11,406	7,696	29,114	56,755					
Total, 1942	15,828	19,334	24,842	148,433	208,437					
1943										
Maine	275	1,372	24	136	1,807	250	1,493	51	88	1,882
Vermont	2,815	12,471	1,202	27	16,515	2,305	11,546	658	10	14,519
New York	5,008	4,773	681	8	10,470	4,085	5,089	479	22	9,675
Michigan	2,616	5	-	4	2,625	1,861	1	-	37	1,899
Minnesota	90	84	-	-	174	58	24	-	-	82
North Dakota	47	87	-	-	134	159	23	-	-	182
Montana	277	11	-	-	288	307	2	-	-	309
Washington	700	147	-	-	847	363	9	-	-	372
1st 6 mos.	11,828	18,950	1,907	175	32,860	9,388	18,187	1,188	157	28,920
2nd 6 mos.	9,388	18,187	1,188	157	28,920					
Total, 1943	21,216	37,137	3,095	332	61,780					
1944										
Maine	289	671	48	60	1,068	190	792	12	82	1,076
Vermont	2,294	12,131	375	-	14,800	1,761	8,115	886	-	10,762
New York	4,479	6,057	570	-	11,106	4,383	5,728	690	-	10,801
Michigan	1,944	-	-	-	1,944	1,621	16	-	-	1,637
Minnesota	59	3	-	-	62	732	-	-	-	732
North Dakota	112	-	-	-	112	58	1	-	-	59
Montana	53	20	-	-	73	77	3	-	-	80
Washington	615	1	16	-	632	377	10	-	-	387
1st 6 mos.	9,845	18,883	1,001	60	29,789	9,199	14,665	1,588	82	25,534
2nd 6 mos.	9,199	14,665	1,588	82	25,534					
Total, 1944	19,044	33,548	2,589	142	55,323					
1945										
Maine	264	1,398	241	63	1,966	206	1,662	313	127	2,308
Vermont	3,582	11,819	2,295	3	17,699	2,679	13,019	1,298	-	16,996
New York	5,306	8,067	1,666	1	15,040	5,262	6,999	1,002	4	13,267
Michigan	3,096	-	-	-	3,096	3,836	-	-	-	3,836
Minnesota	25	-	-	-	25	72	-	-	-	72
North Dakota	47	2	-	-	49	199	15	15	-	229
Montana	115	1	-	-	116	164	-	-	-	164
Washington	684	3	-	-	687	473	8	-	-	481
1st 6 mos.	13,119	21,290	4,202	67	38,678	12,891	21,703	2,628	131	37,353
2nd 6 mos.	12,891	21,703	2,628	131	37,353					
Total, 1945	26,010	42,993	6,830	198	76,031					

Table 24. - United States: Imports of Cattle (including Calves) from Canada, by States of Entry, 1941-50 - Continued

Year and State of Entry	First 6 Months					Second 6 Months				
	Breeding	Dairy	Feeding	Slaughter	Total	Breeding	Dairy	Feeding	Slaughter	Total
1946										
Maine	302	3,039	28	209	3,578	340	3,419	192	122	4,073
Vermont	2,493	16,992	2,250	-	21,735	3,010	16,750	1,505	1	21,266
New York	5,766	12,768	1,182	-	19,716	5,614	13,461	1,057	-	20,132
Michigan	5,614	321	-	-	5,935	4,231	1,148	237	-	5,616
Minnesota	63	-	-	-	63	159	-	-	-	159
North Dakota	47	1	-	-	48	83	-	-	-	83
Montana	100	23	-	-	123	250	-	58	-	308
Washington	280	-	-	-	280	913	-	24	-	937
1st 6 mos.	14,665	33,144	3,460	209	51,478	14,600	34,778	3,073	123	52,574
2nd 6 mos.	14,600	34,778	3,073	123	52,574					
Total, 1946	29,265	67,922	6,533	332	104,052					
1947										
Maine	43	877	70	49	1,039	168	893	63	56	1,180
Vermont	1,677	11,150	1,959	-	14,786	2,506	10,637	1,059	7	14,209
New York	4,605	8,930	1,341	-	14,876	6,427	8,138	1,287	5	15,857
Michigan	3,140	814	354	-	4,308	3,196	2,273	365	-	5,834
Minnesota	131	-	-	-	131	157	17	-	-	174
North Dakota	49	-	4	-	53	445	-	5	-	450
Montana	189	4	-	-	193	792	-	20	-	812
Washington	758	46	-	-	804	1,404	69	-	-	1,473
1st 6 mos.	10,592	21,821	3,728	49	36,190	15,095	22,027	2,799	68	39,989
2nd 6 mos.	15,095	22,027	2,799	68	39,989					
Total, 1947	25,687	43,848	6,527	117	76,179					
1948										
Maine	290	1,778	81	212	2,361	399	2,154	244	841	3,438
Vermont	3,182	18,232	1,373	-	22,787	2,110	12,773	1,184	5,978	22,045
New York	9,842	18,071	3,092	403	31,408	6,987	20,938	4,471	46,327	78,723
Michigan	6,808	2,359	430	31	9,628	6,164	5,122	8,724	31,228	51,238
Minnesota	485	149	46	105	785	617	11,943	47,373	40,820	100,753
North Dakota	469	93	-	-	562	857	297	34,067	26,123	61,344
Montana	1,272	61	27	-	1,360	1,189	73	21,441	4,176	26,879
Washington	919	432	-	-	1,351	1,798	1,636	11,187	27,077	41,698
1st 6 mos.	23,267	41,175	5,049	751	70,242	20,121	54,936	128,691	182,370	386,118
2nd 6 mos.	20,121	54,936	128,691	182,370	386,118					
Total, 1948	43,388	96,111	133,740	183,121	456,360					
1949										
Maine	358	1,096	136	102	1,692	275	666	21	135	1,097
Vermont	832	7,503	760	1,957	11,052	881	4,385	178	912	6,356
New York	5,297	17,269	1,115	32,210	55,891	6,259	14,392	1,615	36,919	59,185
Michigan	1,869	2,796	275	27,572	32,512	2,742	2,694	1,858	36,842	44,136
Minnesota	76	-	9,236	8,004	17,316	146	36	56,115	16,687	72,984
North Dakota	19	-	4,615	4,152	8,786	103	37	46,795	13,792	60,727
Montana	87	29	2,370	1,426	3,912	85	-	10,053	852	10,990
Washington	473	156	3,313	15,945	19,887	633	123	973	9,739	11,468
1st 6 mos.	9,011	28,849	21,820	91,368	151,048	11,124	22,333	117,608	115,878	266,943
2nd 6 mos.	11,124	22,333	117,608	115,878	266,943					
Total, 1949	20,135	51,182	139,428	207,246	417,991					
1950										
Maine	354	998	87	47	1,486	423	1,335	132	131	2,021
Vermont	802	5,555	55	1,659	8,071	822	3,732	6	563	5,123
New York	5,650	18,195	1,080	36,646	61,571	5,258	15,716	708	17,965	39,647
Michigan	3,519	2,737	841	38,333	45,430	3,545	2,619	1,819	13,269	21,252
Minnesota	67	-	18,801	5,921	24,789	60	-	52,961	8,051	61,072
North Dakota	108	1	21,911	2,223	24,243	188	2	61,602	6,101	67,893
Montana	541	1	11,650	1,090	13,282	548	-	18,538	1,392	20,478
Washington	478	64	8,690	32,297	41,529	719	195	8,823	8,979	18,716
1st 6 mos.	11,519	27,551	63,115	118,216	220,401	11,563	23,599	144,589	56,451	236,202
2nd 6 mos.	11,563	23,599	144,589	56,451	236,202					
Total, 1950	23,082	51,150	207,704	174,667	456,603					

Source: Compiled from records of Bureau of Animal Industry.

Table 25. - Consumption Expenditures and Per Capita Expenditures for Meat, Canada and the United States, 1921-50

Year	Population		Canada as percentage of U. S.	Personal consumers' expenditures		Per capita expenditures			Per capita expenditures for meat			Per capita expenditure for meat as percentage of total per capita	
	Canada 1/ (June 1)	U. S. 2/ (July 1)		Canada 3/	U. S. 4/	Canada	U. S.	Canada as percentage of U.S.	Canadn 5/	U. S. 6/	Canada as percentage of US	Canadn	U. S.
	Millions	Millions	Percent	Billion Can $	Billion U. S. $	Can $	U. S. $	Percent	Can $	U. S.	Percent	Percent	Percent
1921	8.8	109.3	8.1	-	-	-	-	-	-	-	-	-	-
1922	8.9	110.9	8.0	-	-	-	-	-	-	-	-	-	-
1923	9.0	112.7	8.0	-	-	-	-	-	-	-	-	-	-
1924	9.1	114.9	7.9	-	-	-	-	-	-	-	-	-	-
1925	9.3	116.6	8.0	-	-	-	-	-	-	-	-	-	-
1926	9.4	118.2	8.0	3.65	73.8	385	624	62	-	-	-	-	-
1927	9.6	119.8	8.0	3.89	73.5	404	614	66	-	-	-	-	-
1928	9.8	121.3	8.1	4.20	76.6	427	631	67	-	-	-	-	-
1929	10.0	122.6	8.2	4.38	78.8	438	643	68	-	-	-	-	-
1930	10.2	123.8	8.2	4.09	70.8	401	572	70	-	-	-	-	-
1931	10.4	124.8	8.3	3.59	61.2	346	490	70	-	-	-	-	-
1932	10.5	125.6	8.4	3.07	49.2	292	392	74	-	-	-	-	-
1933	10.6	126.3	8.4	2.85	46.3	268	367	73	-	-	-	-	-
1934	10.7	127.1	8.4	3.03	51.9	282	408	69	-	-	-	-	-
1935	10.8	128.0	8.4	3.21	56.2	304	439	69	16.60	28.20	59	5.5	6.4
1936	11.0	128.9	8.5	3.42	62.5	313	485	64	17.00	29.80	57	5.4	6.1
1937	11.0	129.6	8.5	3.73	67.1	338	518	65	18.90	31.30	60	5.6	6.0
1938	11.2	130.7	8.6	3.77	64.5	338	493	68	19.20	27.90	69	5.7	5.7
1939	11.3	131.7	8.6	3.86	67.5	343	513	67	18.80	28.40	66	5.5	5.6
1940	11.4	132.8	8.6	4.38	72.1	385	543	71	21.40	28.40	75	5.6	5.2
1941	11.5	134.1	8.6	5.01	82.3	436	614	71	24.20	33.30	73	5.5	5.4
1942	11.7	135.5	8.6	5.55	91.2	476	673	71	31.50	37.90	83	6.4	5.6
1943	11.8	137.4	8.6	5.86	102.2	496	744	67	39.20	40.80	96	7.9	5.5
1944	12.0	138.5	8.7	6.30	111.6	526	803	66	38.70	40.70	95	7.4	5.1
1945	12.1	140.4	8.6	6.95	123.1	574	877	65	38.00	37.90	100	6.6	4.3
1946	12.3	142.1	8.7	7.91	146.9	643	1034	62	38.70	51.35	75	6.1	5.0
1947	12.6	144.9	8.7	9.17	165.6	730	1143	64	44.70	75.34	59	6.2	6.6
1948	12.9	147.4	8.7	10.21	177.4	792	1204	67	55.10	78.88	70	7.0	6.6
1949	13.2	149.4	8.8	10.85	178.8	820	1191	69	62.00	70.74	88	7.6	6.0
1950	13.5	151.5	8.9	-	-	-	-	-	-	74.43	-	-	-

1/ Estimates of D.B.S., July 1950.
2/ Consumption of Food in the United States 1909-48, p. 195.
3/ National Accounts, Income and Expenditures, 1948 and 1950.
4/ Consumption of Food in the United States 1909-48, p. 137.
5/ Estimated by writer.
6/ Livestock and Meat Situation, U.S.D.A., February 1951, p. 47.

Table 26.-Grains: Carry-over of Wheat, Oats, and Barley, Canada and the United States, 1924-50

Year	Wheat 1/		Oats		Barley	
	Canada July 31	U.S. July 1	Canada July 31	U.S. July 1	Canada July 31	U.S. 2/
	Million bushels	Million bushels	Million bushels	Million bushels	Million bushels	Million bushels
1924	45.2	137.1	55.1	3/ 66.6	3.5	5.2
1925	27.7	108.4	35.4	3/ 113.6	4.6	6.3
1926	36.5	100.2	46.1	259.2	8.6	11.0
1927	50.8	109.5	23.1	171.4	5.7	6.6
1928	77.5	112.8	28.7	117.6	6.6	10.5
1929	104.3	226.8	45.3	187.8	13.3	24.8
1930	110.5	291.1	21.7	157.2	24.6	18.4
1931	133.1	312.5	63.4	176.8	29.6	19.8
1932	130.1	375.3	29.8	152.6	7.2	9.4
1933	210.0	377.8	42.0	234.3	11.3	30.2
1934	192.9	272.9	31.1	130.4	11.1	31.8
1935	202.1	145.9	26.5	78.8	6.0	18.1
1936	108.1	140.4	40.4	280.7	10.2	64.4
1937	32.9	83.2	18.3	90.9	4.8	21.9
1938	23.6	153.1	19.5	208.7	6.6	33.4
1939	94.6	250.0	48.9	196.0	12.8	51.2
1940	272.9	279.7	46.9	148.4	12.7	50.2
1941	448.3	384.7	41.6	223.5	10.9	60.4
1942	404.9	630.8	28.6	194.3	10.8	70.0
1943	579.4	618.9	149.3	259.0	69.3	120.5
1944	338.1	316.6	108.5	208.1	45.9	75.9
1945	238.5	279.2	98.3	234.4	28.9	95.1
1946	73.5	100.1	77.5	291.7	29.9	58.6
1947	86.1	83.8	69.5	276.3	28.8	55.6
1948	77.7	196.0	47.9	183.7	31.4	51.9
25-yr. ave. (1924-48)	164.0	243.5	49.7	185.7	17.4	40.0
1949	102.3	308.0	60.5	295.2	29.7	101.0
1950	112.2	426.3	44.9	220.0	20.4	80.4

1/ Excludes stocks of Canadian wheat in the U.S. and stocks of U.S. wheat in Canada on dates shown.

2/ August 1, 1924-33; July 1, 1934-50.

3/ August 1.

Sources: Official estimates.

Table 27.-Wheat: Acreage and Yield, Canada and U.S. Border States, 1910-50 1/

(Index: 1910-29 = 100)

Year	Canada				U.S. border states			
	Acreage		Yield per acre		Acreage		Yield per acre	
	1,000 acres	Index	Bushels	Index	1,000 acres	Index	Bushels	Index
1910	8,865	49.6	14.4	83.2	14,980	82.9	12.5	92.6
1911	11,096	62.1	21.4	123.7	17,425	96.4	13.4	99.3
1912	10,997	61.6	20.3	117.3	17,225	95.3	17.7	133.1
1913	11,015	61.7	21.0	123.1	17,535	97.1	15.0	111.1
1914	10,294	57.6	15.9	91.9	17,420	96.4	14.0	103.7
1915	15,109	84.6	26.5	153.2	18,935	104.8	19.3	14.3
1916	15,370	86.0	17.7	102.3	16,825	93.1	10.7	79.3
1917	14,756	82.6	15.9	91.9	16,945	93.8	10.9	80.7
1918	17,354	97.2	10.6	61.3	19,290	106.7	13.6	100.7
1919	19,126	107.1	9.9	57.2	18,688	103.4	9.0	66.7
1920	18,232	102.1	14.3	82.7	19,865	109.9	11.0	81.5
1921	23,261	130.2	13.0	75.1	20,044	110.9	11.3	83.7
1922	22,423	125.5	18.2	105.2	18,391	101.8	14.1	104.4
1923	21,886	122.5	21.5	124.3	16,827	93.1	12.4	91.9
1924	22,056	123.5	12.3	71.1	16,399	90.7	16.5	122.3
1925	20,790	116.4	19.1	110.4	17,751	98.2	13.2	97.8
1926	22,896	128.2	18.1	104.6	17,710	98.0	11.4	84.4
1927	22,460	125.7	20.7	119.7	19,381	107.2	15.8	117.0
1928	24,119	135.0	23.3	134.7	20,095	111.2	15.8	117.0
1929	25,155	140.8	12.3	71.1	19,700	109.2	11.6	85.9
Average 1910-29	17,863	100.0	17.3	100.0	18,072	100.0	13.5	100.0
1930	24,898	139.4	16.9	97.7	18,767	103.8	12.3	91.1
1931	26,355	147.5	12.0	69.4	12,945	71.6	10.0	74.1
1932	27,182	152.2	16.3	94.2	19,344	107.0	13.0	96.3
1933	25,991	145.5	11.1	64.2	18,479	102.3	9.6	71.1
1934	23,985	134.3	11.4	65.9	10,187	56.4	9.8	72.6
1935	24,116	135.0	11.6	67.1	16,193	89.6	10.7	79.3
1936	25,605	143.3	9.0	52.0	10,980	60.8	9.1	67.4
1937	25,570	143.1	7.3	42.2	15,162	83.9	11.8	87.4
1938	25,930	145.2	13.6	78.6	18,354	101.6	13.5	100.0
1939	26,756	149.8	19.7	113.9	15,200	84.1	13.5	100.0
1940	28,726	160.8	18.7	108.1	16,757	92.7	14.6	108.1
1941	21,882	122.5	14.8	85.5	16,464	91.1	18.8	139.3
1942	21,586	120.8	25.9	149.7	14,439	79.9	21.6	160.0
1943	16,850	94.3	17.3	100.0	15,941	88.2	19.5	144.4
1944	23,284	130.3	18.4	106.4	18,707	103.5	18.2	134.8
1945	23,414	131.1	14.3	82.7	18,584	102.8	17.8	131.8
1946	24,453	136.9	17.4	100.6	19,437	107.6	17.1	126.7
1947	24,260	135.8	14.3	82.7	20,157	111.5	16.4	121.5
1948	23,881	133.7	16.8	97.1	20,366	112.7	17.8	131.9
1949	27,575	154.4	13.8	79.8	21,312	117.9	13.6	100.7
1950	27,021	151.3	18.2	105.2	18,211	100.8	16.6	123.0

1/ Average yields are derived by weighting the yields by provincee and etatee, reepectively, each year by the 1910-29 average acreagee. For Canada theee averagee differ from the yields usually published, which are derived by dividing total production by total acreage. Yields in Canada are per eeeded acre; in border etatee per harveeted acre.

Table 28. - Wheat:[1] Acreage and Yield, by Canadian Provinces and Adjoining U. S. Border States, 1910-50 [2]

Year	Ontario		New York and Michigan		Manitoba		Minnesota and North Dakota		Saskatchewan		North Dakota		Alberta		Montana		British Columbia		Washington	
	Acreage	Yield	Acreage	Yield	Acreage	Yield	Acreage	Yield	Acreage	Yield	Acreage	Yield	Acreage	Yield	Acreage	Yield	Acreage	Yield	Acreage	Yield
	1,000 acres	Bu. per acre	1,000 acres	Bu. per acre	1,000 acres	Bu. per acre	1,000 acres	Bu. per acre	1,000 acres	Bu. per acre	1,000 acres	Bu. per acre	1,000 acres	Bu. per acre	1,000 acres	Bu. per acre	1,000 acres	Bu. per acre	1,000 acres	Bu. per acre
1910	870	22.8	1,245	20.2	2,759	12.4	11,200	9.4	4,228	15.8	7,770	6.5	880	10.3	435	21.1	9	21.8	2,100	15.0
1911	962	20.5	1,340	18.4	3,095	20.3	13,195	9.1	5,256	20.8	9,320	8.5	1,640	22.3	660	25.0	14	28.2	2,230	19.9
1912	855	20.4	1,020	13.2	2,839	22.2	12,950	16.3	5,582	19.2	9,190	16.0	1,590	21.6	975	24.1	13	31.6	2,280	20.1
1913	850	23.4	1,185	17.1	2,804	19.0	12,890	12.2	5,720	21.2	9,280	10.5	1,512	22.7	1,300	23.0	13	29.7	2,160	19.7
1914	834	21.2	1,270	20.7	2,616	14.8	12,500	10.9	5,348	13.7	9,000	11.0	1,371	21.0	1,655	19.3	12	29.5	1,995	21.4
1915	1,093	27.7	1,390	21.2	2,800	24.8	13,000	17.0	8,929	25.1	9,370	17.0	2,138	31.1	2,375	25.5	16	32.8	2,170	23.5
1916	865	20.7	1,185	18.2	2,726	10.9	11,590	6.4	9,032	16.3	8,430	6.0	2,605	25.0	2,380	19.1	16	30.9	1,670	20.4
1917	770	21.2	1,265	18.5	2,449	16.8	11,090	9.7	8,273	14.3	8,240	7.5	2,897	18.3	2,785	10.5	21	29.0	1,805	14.1
1918	714	21.3	1,145	15.2	2,984	16.2	12,430	13.8	9,249	10.0	8,980	11.5	3,892	6.1	3,400	12.6	36	22.5	2,315	12.5
1919	981	21.1	1,519	19.5	2,880	14.2	12,976	7.5	10,587	8.5	9,098	6.7	4,283	8.1	1,698	5.0	44	22.8	2,495	16.8
1920	1,030	22.3	1,509	16.9	2,706	13.9	12,423	9.0	10,061	11.2	9,793	8.8	4,074	20.5	3,608	12.4	46	18.9	2,325	17.2
1921	774	20.1	1,375	16.8	3,501	11.2	13,082	8.5	13,557	13.9	10,734	8.2	5,123	10.4	3,435	12.2	47	25.3	2,152	23.2
1922	938	21.2	1,460	16.3	3,126	19.2	11,515	13.7	12,332	20.3	9,414	13.8	5,766	11.3	3,358	15.6	46	22.3	2,053	13.6
1923	829	22.4	1,273	18.3	2,916	12.3	10,282	9.0	12,791	21.2	8,411	8.2	5,173	28.0	3,274	15.0	45	24.7	1,998	25.3
1924	824	28.3	1,120	22.1	2,459	16.9	10,384	16.4	13,033	10.2	8,674	15.3	5,574	11.0	3,130	16.1	47	21.5	1,765	14.1
1925	860	29.3	1,109	17.4	1,903	17.7	11,436	12.5	12,509	18.8	9,204	12.3	5,348	18.3	3,249	10.8	48	22.3	1,957	17.5
1926	923	25.0	1,177	17.9	2,086	22.6	10,955	9.2	13,558	16.2	9,083	8.6	6,161	18.5	3,590	12.5	53	24.4	1,988	19.1
1927	871	25.1	1,102	21.3	2,195	14.0	12,122	12.7	12,979	19.5	10,336	12.9	6,251	27.4	4,020	20.3	56	26.8	2,137	24.6
1928	803	23.6	1,101	16.2	2,660	19.7	12,376	14.3	13,791	23.3	10,832	14.4	6,708	25.5	4,395	18.0	59	25.0	2,223	21.4
1929	798	24.7	1,032	17.1	2,301	12.4	11,874	10.2	14,445	11.1	10,440	9.6	7,451	12.1	4,419	9.3	59	23.5	2,375	18.6
Average 1910-29	872	23.1	1,241	18.1	2,690	16.7	12,014	11.4	10,063	16.5	9,280	10.7	4,027	18.5	2,707	16.4	35	25.7	2,110	18.9
1930	776	26.1	948	21.7	2,470	17.7	11,264	11.6	14,326	14.4	9,896	10.8	7,164	20.5	4,217	8.4	61	21.7	2,338	16.1
1931	633	27.2	946	25.7	2,617	10.7	7,502	7.8	15,026	8.8	6,295	6.5	7,943	17.7	2,182	6.6	65	24.2	2,315	18.0
1932	636	26.8	935	23.1	2,651	16.6	12,080	10.8	15,543	13.6	10,639	10.4	8,201	20.4	4,021	13.6	61	23.0	2,308	18.6
1933	656	23.9	1,118	17.0	2,536	12.9	11,686	7.5	14,743	8.7	10,098	7.1	7,898	13.0	3,512	7.6	60	22.1	2,163	20.2
1934	522	16.3	1,118	15.1	2,533	14.6	4,654	7.3	13,262	8.6	3,430	6.1	7,501	15.0	2,481	11.1	59	23.8	1,934	19.2
1935	654	22.1	1,156	22.1	2,587	9.0	9,597	7.7	13,206	10.8	7,823	7.0	7,500	13.2	3,434	9.9	58	24.9	2,006	22.5
1936	607	23.4	1,102	20.4	2,557	10.2	5,459	6.7	14,744	7.5	3,699	5.2	7,537	8.8	2,239	5.3	59	25.2	2,180	21.5
1937	813	25.0	1,354	19.9	2,872	15.7	8,840	10.2	13,893	2.6	6,725	8.2	7,834	9.7	2,624	7.8	70	25.4	2,344	21.2
1938	830	25.8	1,212	22.3	3,184	15.7	10,636	10.4	13,793	10.0	8,082	9.0	7,969	18.6	4,249	15.3	69	20.9	2,257	24.0
1939	817	29.2	1,022	22.2	3,201	19.2	8,784	11.0	14,233	19.1	7,236	10.5	8,379	19.3	3,401	13.6	72	26.0	1,993	22.4
1940	845	27.7	1,091	24.2	3,512	18.9	9,613	12.9	15,571	17.1	8,025	11.6	8,667	20.8	3,917	13.2	78	25.6	2,136	20.7
1941	611	26.0	1,037	22.1	2,442	20.9	9,626	16.7	12,217	12.0	8,155	17.3	8,481	15.1	3,703	18.4	85	25.0	2,098	29.1
1942	799	30.4	962	23.8	1,930	27.5	8,433	19.8	12,353	24.7	7,321	19.6	6,370	26.8	3,267	21.4	90	28.5	1,777	31.0
1943	639	21.7	917	17.2	1,640	23.8	9,428	18.0	9,622	15.2	8,326	18.2	4,829	17.1	3,626	22.1	79	26.0	1,970	26.2
1944	706	30.7	1,280	25.0	2,506	20.1	11,070	15.9	13,200	18.3	9,856	15.9	6,738	14.7	4,019	18.8	97	26.0	2,338	26.8
1945	711	29.3	1,328	27.2	2,132	18.2	10,955	16.1	13,610	12.4	9,855	15.7	6,824	12.9	3,777	15.1	106	24.0	2,524	24.4
1946	584	29.3	1,079	26.5	2,522	23.0	11,583	14.4	14,226	14.6	10,192	13.7	6,983	18.2	4,133	15.2	108	28.5	2,642	29.5
1947	743	24.6	1,579	24.7	2,497	16.8	11,432	14.6	14,226	12.2	10,263	14.3	6,634	15.8	4,427	14.8	130	22.8	2,719	23.8
1948	911	29.8	1,849	26.4	2,172	23.0	10,876	14.7	14,389	13.3	9,820	14.4	6,259	18.4	4,875	19.2	116	21.2	2,766	28.7
1949	864	29.8	1,718	27.2	2,887	18.0	11,747	11.2	15,737	11.8	10,466	10.6	7,900	13.0	5,140	12.5	149	26.1	2,707	21.2
1950	983	31.8	1,558	25.8	2,382	21.0	9,308	13.7	16,203	16.0	8,335	13.5	7,251	16.1	4,815	17.8	157	15.4	2,530	26.7

1/ Includes spring and winter wheat, where both are grown.
2/ The acreage here shown for some years in the 1910-19 period for some provinces do not agree with the figures shown in provincial publications. The figures shown here were taken from Handbook of Agricultural Statistics of the Dominion Bureau of Statistics, 1950.

Sources: Official publications of Dominion Bureau of Statistics for Canada; and official publications of Crop Reporting Board for the United States.

Table 29.-Oats: Acreage and Yield, Canada and U.S. Border Statee, 1910-50 1/

(Index: 1910-29 = 100)

Year	Canada				U.S. border statee			
	Acreage		Yield per acre		Acreage		Yield per acre	
	1,000 acres	Index	Bushels	Index	1,000 acres	Index	Bushels	Index
1910	8,656	68.0	27.8	84.8	8,812	91.4	21.9	72.0
1911	9,641	75.7	39.7	121.0	8,830	91.5	26.8	88.2
1912	9,966	78.2	40.1	122.3	9,071	94.0	38.6	127.0
1913	10,434	81.9	39.0	118.9	8,818	91.4	31.9	104.9
1914	10,062	79.0	31.0	94.5	9,229	95.7	29.3	96.4
1915	11,556	90.7	40.5	123.5	9,632	99.9	40.9	134.5
1916	10,996	86.3	37.5	114.3	9,943	103.1	26.6	87.5
1917	13,313	104.5	31.2	95.1	9,947	103.1	28.6	94.1
1918	14,790	116.1	29.5	89.9	10,136	105.1	34.4	113.2
1919	14,952	117.4	26.7	81.4	9,023	93.5	22.7	74.7
1920	15,850	124.4	33.9	103.4	10,089	104.6	33.0	108.6
1921	16,949	133.1	25.1	76.5	10,488	108.7	21.8	71.7
1922	14,541	114.2	33.4	101.8	10,045	104.1	31.8	104.6
1923	14,388	113.0	39.1	119.2	10,130	105.0	31.1	102.3
1924	14,491	113.8	28.4	86.6	10,600	109.9	36.9	121.4
1925	12,556	98.6	32.0	102.9	10,779	111.7	34.1	112.2
1926	12,741	100.0	30.1	91.8	9,817	101.8	26.9	88.5
1927	13,240	103.9	33.1	100.9	9,587	99.4	27.9	91.8
1928	13,137	103.1	34.4	104.9	9,070	94.0	33.5	110.2
1929	12,479	98.0	22.9	70.0	8,871	92.0	28.3	93.1
Average 1910-29	12,737	100.0	32.8	100.0	9,646	100.0	30.4	100.0
1930	13,259	104.1	32.4	98.8	9,191	95.3	33.3	109.5
1931	12,838	100.8	25.8	78.7	8,831	91.5	25.6	84.2
1932	13,148	103.2	29.7	90.5	9,627	99.8	30.7	101.0
1933	13,529	106.2	23.1	70.4	8,781	91.0	20.8	68.4
1934	13,731	107.8	23.9	72.9	6,762	70.1	21.3	70.1
1935	14,096	110.7	28.4	86.6	10,080	104.5	32.3	106.3
1936	13,288	104.3	21.1	64.3	7,054	73.1	23.3	76.6
1937	13,048	102.4	23.1	70.4	8,096	83.9	32.6	107.2
1938	13,010	102.1	30.1	91.8	7,958	82.5	31.8	104.6
1939	12,790	100.4	30.3	92.4	8,167	84.7	34.0	111.8
1940	12,258	96.6	30.7	93.6	8,876	92.0	37.4	123.0
1941	12,266	96.3	25.8	78.7	9,124	94.6	30.2	99.3
1942	13,782	108.2	46.0	140.2	9,510	98.6	40.5	133.2
1943	15,407	121.0	30.1	91.8	9,080	94.1	29.4	96.7
1944	14,315	112.4	35.3	107.6	9,889	102.5	33.0	108.6
1945	14,393	113.0	28.0	85.4	10,809	112.1	39.1	128.6
1946	12,075	94.8	31.9	97.3	10,691	110.8	36.7	120.7
1947	11,048	86.7	25.9	79.0	8,912	92.4	33.6	110.5
1948	11,200	87.9	32.7	100.0	9,773	101.3	38.3	126.0
1949	11,389	89.4	28.1	85.7	9,568	99.2	32.9	108.2
1950	11,575	90.9	33.8	103.0	10,011	103.8	36.8	121.1

1/ See note 1/, Table 27.

Table 30. - Oats: Acreage and Yield, by Canadian Provinces and Adjoining U.S. Border States, 1910-50 1/

Year	Maritime Provinces 2/		Maine		Quebec		Maine, New Hamp., Vermont		Ontario		New York, Michigan		Manitoba		Minnesota, North Dakota		Saskatchewan		North Dakota		Alberta		Montana		British Columbia		Washington	
	Acreage	Yield	Acreage	Yield	Acreage	Yield	Acreage	Yield	Acreage	Yield	Acreage	Yield	Acreage	Yield	Acreage	Yield	Acreage	Yield	Acreage	Yield	Acreage	Yield	Acreage	Yield	Acreage	Yield	Acreage	Yield
	1,000 acres	Bu. per acre	1,000 acres	Bu. per acre	1,000 acres	Bu. per acre	1,000 acres	Bu. per acre	1,000 acres	Bu. per acre	1,000 acres	Bu. per acre	1,000 acres	Bu. per acre	1,000 acres	Bu. per acre	1,000 acres	Bu. per acre	1,000 acres	Bu. per acre	1,000 acres	Bu. per acre	1,000 acres	Bu. per acre	1,000 acres	Bu. per acre	1,000 acres	Bu. per acre
1910	479	28.7	122	39.5	1,392	24.3	208	38.0	2,871	31.3	2,825	33.0	1,209	25.1	5,130	17.9	1,888	31.2	2,150	8.0	783	21.6	385	33.0	33	53.1	264	42.5
1911	488	29.3	126	32.5	1,440	26.2	212	31.7	2,806	30.2	2,800	29.0	1,307	45.9	5,150	23.9	2,333	46.1	2,200	24.5	1,221	48.3	410	41.0	45	52.5	258	48.0
1912	475	34.2	117	31.0	1,296	25.9	201	33.6	2,785	34.8	2,675	32.8	1,348	42.4	5,490	40.4	2,556	46.0	2,460	41.5	1,461	46.3	460	44.0	45	55.7	245	50.5
1913	476	32.3	114	36.5	1,303	30.0	198	35.1	2,814	37.4	2,690	30.4	1,398	40.6	5,170	31.2	2,755	41.4	2,220	25.5	1,639	43.7	520	40.0	48	55.5	240	47.5
1914	486	36.2	110	37.0	1,327	31.7	194	35.8	2,840	35.0	2,635	31.8	1,331	24.0	5,610	26.9	2,520	24.5	2,570	28.5	1,502	38.0	560	35.0	57	55.9	230	49.0
1915	509	31.2	113	37.0	1,400	30.1	197	36.4	3,095	39.7	2,720	39.3	1,317	38.5	5,925	41.1	3,336	43.5	2,700	39.5	1,827	45.9	570	45.0	71	61.8	220	50.0
1916	513	34.1	108	34.0	1,073	22.8	190	30.8	1,991	25.5	2,543	27.8	1,444	33.6	5,875	24.3	3,792	43.1	2,550	21.5	2,124	48.1	630	38.0	60	60.5	205	52.0
1917	514	27.9	114	29.0	1,493	21.8	202	30.5	2,687	36.5	2,630	35.5	1,500	30.3	6,260	26.1	4,522	27.3	2,870	15.0	2,538	34.0	640	20.0	60	53.8	215	38.5
1918	539	33.9	122	37.0	1,933	27.3	218	36.8	2,924	45.0	2,808	39.6	1,715	31.8	6,240	32.7	4,988	21.5	2,700	24.5	2,652	22.8	650	28.0	39	39.7	220	33.5
1919	639	32.9	117	31.0	2,141	26.8	215	30.8	2,674	29.3	2,538	23.8	1,847	31.2	5,756	22.1	4,838	23.2	2,193	15.0	2,767	23.7	304	13.5	45	47.2	210	42.0
1920	645	29.2	115	41.0	2,206	30.3	208	36.7	2,880	44.9	2,619	37.7	1,874	30.8	6,482	30.8	5,107	27.7	2,598	23.0	3,090	37.2	572	30.0	48	34.7	208	46.0
1921	611	26.5	123	35.0	2,367	21.4	228	32.1	3,095	23.4	2,627	20.0	2,226	22.2	6,817	21.1	5,682	30.0	2,568	16.0	2,912	22.0	629	24.0	57	48.7	187	52.0
1922	633	32.8	120	34.0	2,252	27.7	231	32.4	3,034	38.2	2,557	29.8	1,852	40.2	6,510	32.5	5,098	35.2	2,388	30.0	1,614	22.0	579	32.0	58	43.8	168	37.0
1923	507	33.1	125	37.0	1,820	26.8	225	34.7	2,967	34.9	2,545	29.5	1,835	32.0	6,594	30.8	4,899	44.5	2,307	22.0	2,300	50.0	591	33.0	61	51.5	175	54.0
1924	490	30.2	125	38.0	1,838	27.7	215	36.5	2,892	39.5	2,457	37.1	1,953	36.2	7,203	37.6	4,942	19.7	2,616	30.5	2,304	24.0	550	26.0	72	37.2	175	38.5
1925	511	31.7	135	41.0	1,856	29.1	230	37.9	2,837	41.6	2,625	31.8	1,623	30.9	7,177	35.5	3,752	27.3	2,407	25.5	1,900	30.9	537	22.5	76	36.8	210	43.5
1926	479	30.3	136	36.0	1,856	26.8	220	34.5	2,832	33.8	2,431	30.8	1,654	31.9	6,506	24.6	3,921	28.1	1,974	17.5	1,916	30.0	482	26.0	82	36.0	178	44.0
1927	477	28.0	125	36.0	1,782	28.4	201	34.4	2,689	37.9	2,415	32.2	1,545	16.7	6,423	24.4	4,413	32.3	2,073	21.0	2,248	45.0	414	39.0	87	50.5	134	48.5
1928	482	32.3	119	34.0	1,746	23.5	186	32.9	2,660	35.1	2,406	32.4	1,458	36.6	5,975	33.3	4,359	35.8	1,886	28.5	2,340	37.7	348	36.5	91	48.5	155	49.0
1929	496	31.5	120	37.9	1,826	26.0	182	35.9	2,335	31.5	2,068	26.1	1,558	19.7	6,153	29.1	4,256	16.2	1,923	18.0	1,918	21.9	321	19.0	90	49.8	147	48.0
Average 1910-29	522	31.3	120	35.7	1,717	26.7	208	34.4	2,785	35.3	2,581	31.5	1,600	32.0	6,223	29.3	3,998	32.2	2,368	23.9	2,053	34.7	508	31.3	61	48.7	202	45.7
1930	513	32.8	120	39.5	1,900	26.6	182	37.2	2,469	39.5	2,256	36.2	1,590	31.8	6,317	32.8	4,531	27.7	1,875	21.5	2,165	36.0	280	17.5	91	46.1	156	48.5
1931	452	31.9	114	32.0	1,657	28.5	182	32.1	2,362	33.2	2,358	29.2	1,518	16.8	5,980	23.8	4,295	15.8	1,450	14.0	2,466	36.7	160	17.5	87	50.6	151	49.0
1932	451	33.0	125	38.0	1,736	29.4	194	30.2	2,338	32.3	2,283	28.5	1,464	25.2	6,623	31.4	4,365	24.6	2,048	21.0	2,705	37.5	368	26.0	91	48.7	159	50.0
1933	454	33.3	124	40.0	1,718	26.1	190	36.8	2,316	28.3	2,027	21.7	1,504	19.6	6,080	19.1	4,571	16.5	1,740	13.0	2,870	25.3	314	17.0	96	47.0	170	53.0
1934	447	32.7	112	40.0	1,680	28.7	180	37.2	2,391	34.1	2,159	25.4	1,458	18.3	4,053	18.2	4,625	13.9	583	13.7	3,032	26.7	205	25.0	99	47.5	165	39.5
1935	464	29.7	112	36.0	1,674	27.0	184	34.0	2,377	36.0	2,289	31.9	1,434	21.4	7,083	32.8	4,942	26.7	2,186	25.5	3,102	26.5	348	22.5	103	48.4	176	45.0
1936	471	34.9	115	35.0	1,690	27.9	182	34.2	2,346	28.5	2,153	24.1	1,453	14.0	4,399	22.3	4,684	14.0	437	11.0	2,537	19.7	153	16.5	106	51.0	167	48.0
1937	451	23.8	109	35.0	1,644	21.8	167	32.3	2,264	32.6	2,028	26.9	1,410	30.5	5,550	35.1	4,380	5.1	1,311	22.5	2,789	27.6	196	24.0	110	51.1	155	49.0
1938	449	30.6	105	34.0	1,662	23.2	163	33.2	2,263	36.3	2,059	33.9	1,462	28.0	5,290	30.2	4,171	21.6	1,390	22.5	2,885	35.0	298	36.0	118	42.3	148	42.0
1939	452	32.9	109	36.0	1,717	26.4	166	35.8	2,274	38.1	1,972	34.4	1,377	25.1	5,504	34.0	4,144	27.0	1,565	22.5	2,706	31.4	340	27.5	120	50.8	185	45.0
1940	443	33.3	98	40.0	1,664	26.6	153	38.1	2,254	38.4	2,188	42.1	1,293	25.5	5,986	36.1	3,880	24.0	1,722	20.5	2,645	38.9	371	28.5	118	50.1	178	39.0
1941	387	30.2	102	37.0	1,695	27.9	155	35.5	1,965	33.0	2,205	32.4	1,308	31.9	6,191	28.4	4,030	18.0	1,894	31.5	2,799	22.8	404	33.0	82	45.7	169	45.0
1942	391	33.3	95	40.0	1,686	30.0	157	38.8	1,966	43.0	2,362	42.4	1,480	47.3	6,260	39.9	4,902	52.0	2,178	35.0	3,284	53.3	521	35.5	73	52.1	210	48.0
1943	398	34.4	77	40.0	1,690	22.5	129	35.1	1,457	23.8	1,674	19.7	1,632	38.6	6,614	32.2	6,482	30.9	2,287	32.5	3,676	35.1	472	36.0	72	50.1	191	47.5
1944	391	35.6	85	38.0	1,685	26.4	141	35.7	1,716	38.9	2,054	32.2	1,615	37.8	7,109	32.8	5,640	35.1	2,653	33.0	3,192	35.0	425	34.8	76	48.5	160	44.7
1945	389	32.8	71	37.0	1,654	22.9	123	35.0	1,522	35.4	2,168	36.6	1,697	32.1	8,045	40.9	5,717	25.0	2,653	32.5	3,335	22.8	323	29.0	79	45.1	150	43.0
1946	370	35.4	71	40.0	1,466	23.7	123	37.6	1,635	43.9	2,389	43.6	1,439	34.7	7,699	33.8	4,329	23.1	2,361	26.5	2,754	35.2	352	31.0	81	54.9	128	48.0
1947	383	33.0	75	35.0	1,395	19.1	112	32.7	1,288	32.2	1,575	32.7	1,381	28.2	6,756	33.7	3,983	20.1	2,219	29.0	2,534	29.6	338	31.0	84	46.5	131	52.0
1948	373	38.0	68	43.0	1,381	29.3	114	40.7	1,836	41.8	2,180	39.0	1,491	40.2	7,007	38.0	3,652	24.4	2,152	28.0	2,392	31.4	324	36.5	76	45.6	148	42.5
1949	372	38.2	96	42.0	1,509	24.9	138	38.8	2,086	34.5	2,354	33.7	1,703	31.1	6,652	32.3	3,381	25.1	1,700	21.5	2,259	23.0	279	29.0	83	50.3	145	47.0
1950	366	44.9	94	42.0	1,546	33.0	143	39.3	2,128	45.2	2,267	40.7	1,610	43.5	7,065	34.7	3,381	33.1	1,972	27.5	2,455	29.3	371	37.0	89	30.3	165	48.0

1/ See note 2/, Table 28.
2/ Nova Scotia, New Brunswick, Prince Edward Island.

Table 31.-Barley: Acreage and Yield, Canada and U.S. Border States, 1910-50 1/

(Index: 1910-29 = 100)

Year	Canada				U.S. border states			
	Acreage		Yield per acre		Acreage		Yield per acre	
	1,000 acres	Index	Bushels	Index	1,000 acres	Index	Bushels	Index
1910	1,283	46.9	15.1	59.2	3,049	86.5	14.4	67.3
1911	1,523	55.5	30.3	118.8	3,332	94.5	19.7	92.1
1912	1,581	57.7	31.9	125.0	3,549	100.6	26.2	122.4
1913	1,613	58.8	30.0	117.6	3,648	103.4	21.7	101.4
1914	1,496	54.6	22.9	89.8	3,723	105.6	21.1	98.6
1915	1,718	62.7	31.1	122.0	3,492	99.0	28.4	132.7
1916	1,803	65.8	23.7	92.9	3,755	106.5	18.0	84.1
1917	2,392	87.2	23.4	91.8	3,882	101.1	18.2	85.0
1918	3,164	115.0	24.0	94.1	3,956	112.2	24.3	113.6
1919	2,646	96.5	20.9	82.0	2,520	71.4	15.3	71.5
1920	2,552	93.1	24.2	94.9	2,783	78.9	21.3	99.5
1921	2,796	102.0	21.8	85.5	2,580	73.1	16.5	77.1
1922	2,600	94.8	27.8	109.0	2,330	66.1	23.8	111.2
1923	2,785	101.6	28.0	109.8	2,656	75.3	20.2	94.4
1924	3,407	124.3	26.6	104.3	3,352	95.0	26.2	122.4
1925	3,524	128.5	25.3	99.2	3,480	98.7	23.5	109.8
1926	3,647	133.0	27.3	107.1	3,417	96.9	19.4	90.7
1927	3,506	127.9	28.0	109.8	3,929	111.4	25.3	118.2
1928	4,881	178.0	28.2	110.6	5,237	148.5	25.6	119.6
1929	5,926	216.1	18.6	72.9	5,877	166.6	18.6	86.9
Average 1910-29	2,742	100.0	25.5	100.0	3,527	100.0	21.4	100.0
1930	5,559	202.7	25.5	100.0	5,308	150.5	21.8	101.9
1931	3,791	138.3	18.6	72.9	4,300	121.9	16.9	79.0
1932	3,758	137.1	21.9	85.9	4,888	138.6	20.8	97.2
1933	3,658	133.4	17.9	70.2	4,102	116.3	14.1	65.9
1934	3,612	131.7	18.3	71.8	2,730	77.4	14.8	69.2
1935	3,887	141.8	22.5	88.2	5,292	150.0	22.4	104.7
1936	4,438	161.9	16.9	66.3	2,953	83.7	15.5	72.4
1937	4,331	158.0	20.1	78.8	3,757	106.5	22.5	105.1
1938	4,454	162.4	23.2	91.0	3,730	105.8	22.8	106.5
1939	4,347	158.5	23.9	93.7	4,394	124.6	24.1	112.6
1940	4,342	158.4	23.9	93.7	4,306	122.1	24.2	113.1
1941	5,304	193.4	23.0	90.2	4,155	117.8	26.4	123.4
1942	6,973	254.3	36.2	142.0	5,229	148.3	29.2	136.4
1943	8,397	306.2	25.8	101.2	5,058	143.4	21.9	102.3
1944	7,291	265.9	27.5	107.8	4,352	123.4	22.3	104.2
1945	7,350	268.1	23.6	92.5	3,754	106.4	24.7	115.4
1946	6,253	228.2	25.8	101.2	4,145	117.5	23.8	111.2
1947	7,465	272.2	19.8	77.6	4,530	128.4	23.4	109.3
1948	6,495	236.9	26.7	104.7	5,090	144.3	24.5	114.5
1949	6,017	219.4	22.6	88.6	3,550	100.7	20.2	94.4
1950	6,625	241.6	30.0	117.6	4,472	126.8	20.6	96.3

1/ See note 1/, Table 27.

Table 32. - Barley: Acreage and Yield, by Canadian Provinces and Adjoining U. S. Border States, 1910-50

Year	Maritime Provinces 2/		Maine		Quebec		Maine, New Hamp., Vermont		Ontario		New York, Michigan		Manitoba		Minnesota, North Dakota		Saskatchewan		North Dakota		Alberta		Montana		British Colombia		Washington	
	Acreage	Yield	Acreage	Yield	Acreage	Yield	Acreage	Yield	Acreage	Yield	Acreage	Yield	Acreage	Yield	Acreage	Yield	Acreage	Yield	Acreage	Yield	Acreage	Yield	Acreage	Yield	Acreage	Yield	Acreage	Yield
	1,000 acres	Bu. per acre	1,000 acres	Bu. per acre	1,000 acres	Bu. per acre	1,000 acres	Bu. per acre	1,000 acres	Bu. per acre	1,000 acres	Bu. per acre	1,000 acres	Bu. per acre	1,000 acres	Bu. per acre	1,000 acres	Bu. per acre	1,000 acres	Bu. per acre	1,000 acres	Bu. per acre	1,000 acres	Bu. per acre	1,000 acres	Bu. per acre	1,000 acres	Bu. per acre
1910	13:	24.4:	4:	27.0:	98:	23.8:	16:	27.6:	503:	28.0:	177:	26.7:	416:	15.7:	2,650:	12.6:	130:	23.6:	1,200:	5.0:	121:	20.4:	30:	19.5:	2:	27.8:	176:	24.0
1911	13:	26.3:	4:	24.5:	101:	22.8:	15:	26.1:	520:	26.4:	175:	23.2:	448:	33.4:	2,935:	18.7:	274:	31.6:	1,460:	19.5:	164:	26.5:	31:	27.0:	3:	41.7:	176:	32.0
1912	13:	28.5:	4:	24.0:	94:	23.7:	15:	23.7:	512:	29.5:	174:	25.0:	481:	32.9:	3,140:	25.9:	292:	32.9:	1,650:	25.0:	187:	33.0:	37:	30.5:	3:	45.0:	183:	34.0
1913	12:	27.7:	4:	25.0:	89:	25.4:	14:	25.6:	485:	30.1:	178:	24.8:	496:	28.8:	3,230:	20.8:	332:	31.3:	1,780:	19.0:	197:	32.2:	41:	29.0:	2:	35.3:	185:	32.5
1914	11:	29.2:	4:	26.0:	85:	26.6:	14:	24.9:	461:	30.3:	187:	26.0:	468:	21.0:	3,290:	20.0:	290:	16.9:	1,910:	19.0:	178:	27.0:	45:	26.5:	3:	37.3:	187:	33.0
1915	11:	26.5:	4:	23.0:	85:	26.5:	14:	26.0:	449:	34.2:	188:	30.0:	567:	29.4:	3,060:	27.9:	300:	31.7:	1,810:	26.5:	304:	32.3:	50:	35.0:	3:	40.3:	180:	33.5
1916	10:	26.8:	4:	23.5:	73:	20.0:	13:	24.0:	326:	23.0:	227:	22.7:	688:	20.0:	3,315:	16.6:	367:	27.0:	1,940:	14.5:	337:	29.0:	55:	30.0:	3:	45.8:	145:	33.5
1917	10:	25.6:	4:	24.0:	166:	18.5:	14:	24.8:	361:	31.0:	301:	26.9:	708:	22.5:	3,385:	17.2:	670:	21.0:	2,110:	12.5:	472:	22.0:	62:	16.0:	6:	29.3:	120:	22.5
1918	24:	28.2:	5:	26.0:	189:	24.0:	16:	25.6:	660:	36.7:	490:	29.4:	1,103:	25.4:	3,250:	24.2:	699:	17.0:	1,950:	21.0:	470:	16.5:	55:	24.0:	8:	26.4:	145:	13.0
1919	30:	29.2:	4:	24.0:	235:	22.8:	13:	23.3:	569:	23.1:	473:	17.6:	894:	19.2:	1,919:	14.7:	493:	18.2:	1,105:	11.5:	414:	25.5:	30:	12.0:	10:	33.0:	85:	27.0
1920	25:	24.9:	4:	26.0:	194:	25.3:	12:	25.3:	484:	34.4:	400:	26.1:	839:	20.9:	2,225:	20.5:	519:	20.2:	1,194:	17.5:	481:	26.5:	64:	18.0:	10:	37.7:	82:	33.0
1921	24:	20.8:	4:	30.0:	192:	21.3:	9:	27.2:	462:	22.0:	351:	16.9:	1,043:	18.9:	2,065:	15.7:	498:	26.8:	1,096:	14.5:	568:	20.5:	75:	20.5:	9:	34.8:	80:	33.0
1922	19:	26.7:	3:	25.0:	156:	22.8:	9:	24.3:	434:	32.2:	260:	23.5:	969:	29.8:	1,919:	23.9:	636:	29.0:	1,008:	22.0:	378:	16.5:	68:	24.0:	7:	29.3:	74:	21.0
1923	20:	28.7:	3:	30.0:	125:	23.2:	8:	28.1:	452:	29.9:	257:	23.3:	1,156:	22.3:	2,234:	18.9:	640:	30.1:	1,250:	16.0:	1/ 384:	38.5:	85:	25.5:	7:	33.5:	72:	42.0
1924	17:	27.3:	3:	30.0:	124:	23.7:	8:	29.4:	439:	33.2:	250:	29.7:	1,373:	29.8:	2,383:	26.2:	954:	18.2:	1,468:	23.5:	494:	25.0:	101:	20.5:	6:	30.6:	70:	23.0
1925	17:	26.5:	3:	35.0:	124:	24.0:	9:	29.7:	436:	34.2:	294:	25.6:	1,645:	23.8:	2,955:	23.1:	858:	21.1:	1,820:	20.0:	437:	25.8:	141:	21.0:	6:	29.8:	84:	31.0
1926	19:	26.5:	4:	30.0:	124:	23.5:	9:	27.8:	449:	32.2:	333:	27.1:	1,761:	28.9:	2,858:	18.0:	872:	25.1:	1,530:	13.5:	416:	22.0:	150:	24.0:	7:	29.5:	67:	30.5
1927	19:	25.0:	3:	27.0:	125:	24.7:	8:	26.4:	515:	33.5:	392:	27.3:	1,512:	24.3:	3,278:	24.5:	926:	29.3:	1,804:	22.5:	400:	30.0:	195:	31.0:	8:	34.1:	56:	37.0
1928	24:	27.8:	3:	28.0:	128:	21.9:	8:	24.9:	615:	32.4:	466:	27.4:	1,937:	27.1:	4,499:	25.1:	1,621:	27.3:	2,435:	23.0:	546:	29.1:	215:	28.0:	10:	32.0:	49:	31.5
1929	26:	26.6:	3:	30.0:	154:	22.8:	7:	27.7:	622:	29.0:	407:	20.1:	2,182:	16.7:	5,151:	18.1:	2,229:	13.8:	2,875:	13.5:	704:	17.8:	258:	16.0:	9:	31.5:	54:	30.0
Average 1910-29	178:	26.7:	4:	26.9:	133:	23.4:	115:	26.1:	488:	30.3:	298:	25.0:	1,034:	24.5:	2,987:	20.6:	680:	24.6:	1,670:	18.0:	383:	25.8:	89:	23.9:	6:	34.2:	114:	29.8
1930	27:	28.9:	3:	31.0:	157:	23.5:	7:	28.7:	610:	34.3:	401:	29.0:	1,991:	25.1:	4,614:	20.9:	2,016:	20.1:	2,588:	16.5:	748:	25.4:	232:	16.5:	10:	29.5:	54:	30.0
1931	22:	27.4:	3:	28.0:	97:	25.3:	6:	29.0:	449:	30.0:	443:	25.2:	1,129:	13.6:	3,676:	15.6:	1,375:	10.4:	1,812:	11.0:	710:	29.3:	128:	15.0:	9:	32.9:	47:	30.0
1932	24:	27.7:	4:	30.0:	114:	25.7:	7:	29.1:	456:	30.2:	463:	22.2:	1,123:	17.8:	4,219:	20.3:	1,330:	17.6:	2,225:	17.0:	701:	28.1:	147:	22.0:	9:	31.0:	52:	29.0
1933	24:	27.5:	5:	31.0:	131:	23.8:	9:	27.9:	461:	26.1:	401:	16.0:	1,173:	14.4:	3,500:	13.1:	1,228:	14.3:	1,705:	10.5:	631:	20.3:	132:	15.0:	10:	30.4:	60:	35.0
1934	22:	26.8:	4:	30.0:	133:	25.0:	8:	28.5:	485:	30.4:	339:	22.0:	1,125:	15.4:	2,251:	13.3:	1,088:	11.4:	751:	10.4:	749:	20.1:	84:	20.0:	11:	32.8:	48:	29.5
1935	24:	25.6:	5:	26.0:	141:	24.8:	10:	26.5:	523:	32.2:	346:	26.7:	1,121:	20.6:	4,720:	21.7:	1,146:	20.2:	2,380:	18.0:	920:	17.8:	151:	19.0:	12:	33.6:	65:	32.0
1936	27:	28.5:	5:	26.0:	154:	26.4:	11:	27.1:	519:	27.0:	337:	19.1:	1,423:	13.3:	2,488:	14.4:	1,302:	12.8:	476:	9.5:	999:	17.0:	57:	14.0:	13:	34.2:	60:	37.0
1937	30:	20.4:	4:	27.0:	168:	21.3:	10:	25.2:	556:	28.8:	343:	23.0:	1,393:	25.0:	3,252:	22.0:	1,174:	4.7:	1,280:	16.5:	995:	22.2:	91:	23.0:	15:	33.2:	61:	35.0
1938	32:	25.5:	4:	27.0:	177:	23.5:	10:	28.2:	544:	30.6:	323:	28.5:	1,355:	22.9:	3,206:	21.6:	1,207:	16.6:	1,254:	17.0:	1,125:	26.0:	127:	29.0:	14:	30.1:	64:	34.0
1939	37:	27.5:	4:	25.0:	168:	24.2:	10:	26.8:	522:	31.8:	361:	28.5:	1,344:	20.8:	3,732:	23.4:	1,149:	22.6:	1,633:	17.2:	1,114:	24.2:	195:	23.5:	14:	34.6:	96:	33.0
1940	44:	29.0:	4:	29.0:	160:	24.4:	10:	29.0:	499:	31.1:	323:	31.6:	1,256:	21.9:	3,636:	23.3	1,251:	18.8:	1,747:	16.0:	1,115:	28.7:	187:	22.5:	17:	33.5:	150:	29.0
1941	43:	25.9:	5:	27.0:	144:	25.8:	10:	27.0:	364:	28.7:	324:	29.2:	1,531:	26.1:	3,442:	25.7:	1,661:	16.1:	1,817:	24.5:	1,543:	18.1:	224:	28.0:	18:	32.9:	165:	37.0
1942	44:	29.5:	4:	28.0:	139:	27.5:	8:	29.0:	353:	34.5:	336:	32.0:	2,021:	36.6:	4,032:	28.6:	2,468:	37.3:	2,326:	28.0:	1,925:	39.0:	438:	28.5:	23:	37.3:	365:	40.0
1943	46:	27.8:	4:	31.0:	156:	20.4:	8:	27.0:	279:	23.0:	265:	16.5:	2,341:	29.0:	3,880:	21.6:	3,316:	24.1:	2,652:	23.0:	2,239:	25.0:	605:	29.5:	20:	34.5:	300:	39.0
1944	40:	30.1:	3:	29.0:	136:	23.7:	6:	27.0:	331:	33.8:	246:	25.6:	2,123:	25.8:	3,313:	21.3:	2,698:	26.7:	2,625:	21.6:	1,942:	26.6:	611:	27.3:	20:	34.3:	176:	36.8
1945	37:	26.7:	3:	29.0:	133:	21.5:	6:	25.5:	305:	30.8:	220:	28.2:	2,139:	24.5:	2,731:	24.0:	2,672:	20.4:	2,284:	23.0:	2,048:	18.1:	672:	22.0:	16:	31.7:	125:	35.0
1946	29:	28.7:	4:	32.0:	125:	22.0:	6:	30.7:	293:	36.7:	252:	34.5:	1,697:	25.3:	3,017:	22.2:	2,317:	18.6:	2,284:	20.0:	1,783:	26.9:	780:	22.5:	14:	38.2:	90:	37.5
1947	30:	28.0:	4:	28.0:	157:	18.4:	5:	26.2:	228:	26.9:	206:	27.3:	1,901:	17.9:	3,419:	22.6:	2,780:	16.2:	2,444:	21.0:	2,364:	22.1:	796:	23.5:	15:	34.0:	104:	35.0
1948	27:	31.5:	4:	32.0:	144:	27.0:	6:	31.0:	226:	34.4:	226:	32.0:	1,540:	29.2:	3,859:	23.2:	2,316:	18.1:	2,640:	21.0:	2,226:	24.7:	874:	28.5:	16:	31.1:	125:	34.5
1949	33:	30.5:	5:	31.0:	125:	24.0:	6:	29.7:	228:	30.3:	197:	27.2:	1,699:	23.5:	2,724:	19.1:	1,800:	18.3:	1,663:	16.0:	2,118:	12.0:	524:	23.0:	14:	36.1:	99:	29.0
1950	37:	37.2:	5:	29.0:	142:	30.0:	6:	28.7:	222:	37.5:	188:	29.4:	1,717:	32.0:	3,227:	18.9:	1,954:	23.5:	7,996:	17.0:	2,534:	22.1:	791:	27.0:	19:	19.7:	260:	36.0

1/ See note 2/ Table 28.

Table 33.-Flaxseed: Acreage and Yield, Canada and U.S. Border States, 1910-50 1/

(Index: 1910-29 = 100)

Year	Canada				U.S. border states			
	Acreage		Yield per acre		Acreage		Yield per acre	
	1,000 acres	Index	Bushels	Index	1,000 acres	Index	Bushels	Index
1910	582	66.2	7.1	82.6	1,640	94.9	5.0	66.7
1911	1,351	149.8	11.5	133.7	2,030	117.4	7.6	101.3
1912	2,022	230.0	12.9	150.0	2,565	148.4	9.8	130.7
1913	1,553	176.7	11.4	132.6	1,680	97.2	7.8	104.0
1914	1,084	123.3	6.8	79.1	1,365	78.9	8.4	112.0
1915	463	52.7	12.8	148.8	960	55.5	10.1	134.7
1916	658	74.9	12.6	146.5	1,140	65.9	9.2	122.7
1917	920	104.7	6.6	76.7	1,670	96.6	4.5	60.0
1918	1,068	121.5	5.6	65.1	1,570	90.8	7.4	98.7
1919	1,093	124.3	5.1	59.3	1,098	63.5	4.9	65.3
1920	1,428	162.5	5.5	64.0	1,379	79.8	6.2	82.7
1921	533	60.6	7.5	87.2	890	51.5	7.2	96.0
1922	565	64.3	8.7	101.1	915	52.9	9.5	126.7
1923	630	71.7	11.5	133.7	1,687	97.6	8.2	109.3
1924	1,277	145.3	6.9	80.2	2,906	168.1	8.9	118.7
1925	843	95.9	7.2	83.7	2,391	138.3	7.2	96.0
1926	738	84.0	7.1	82.6	2,239	129.5	6.8	90.7
1927	476	54.2	10.5	122.1	2,164	125.2	9.1	121.3
1928	378	43.0	9.5	110.5	1,994	115.3	7.7	102.7
1929	382	43.5	5.2	60.5	2,297	132.9	5.4	72.0
Average 1910-29	902	100.0	8.6	100.0	1,729	100.0	7.5	100.0
1930	582	64.5	9.0	104.7	2,946	170.4	6.0	80.0
1931	648	71.8	3.9	45.3	2,109	122.0	4.8	64.0
1932	462	51.2	6.0	69.8	1,740	100.6	5.7	76.0
1933	244	27.1	2.6	30.2	1,219	70.5	5.0	66.7
1934	227	25.2	3.8	44.2	893	51.6	5.4	72.0
1935	307	34.0	5.5	64.0	1,799	104.0	6.6	88.0
1936	477	52.9	3.7	43.0	961	55.6	4.3	57.3
1937	241	26.7	2.4	27.9	756	43.7	6.9	92.0
1938	210	23.3	5.6	65.1	744	43.0	8.0	106.7
1939	298	33.0	6.8	79.1	1,653	95.6	8.1	108.0
1940	382	42.4	7.5	87.2	2,322	134.3	8.9	118.7
1941	996	110.4	5.7	66.3	2,290	132.4	8.6	114.7
1942	1,492	165.4	9.9	115.1	3,231	186.9	8.5	113.3
1943	2,948	326.8	6.0	69.8	4,054	234.5	8.2	109.3
1944	1,323	146.7	7.2	83.7	1,836	106.2	7.8	104.0
1945	1,059	117.4	6.4	74.4	2,919	168.8	8.5	113.3
1946	841	93.2	6.5	75.6	1,729	100.0	8.5	113.3
1947	1,574	174.5	6.6	76.7	2,975	172.1	9.2	122.7
1948	1,880	208.4	8.4	97.7	3,450	199.5	10.7	142.7
1949	322	35.7	5.5	64.0	3,458	200.0	8.2	109.3
1950	547	60.6	7.3	84.9	2,830	163.7	8.9	118.7

1/ See note 1/, Table 27.

Table 34. Flaxseed: Acreage and Yield, by Canadian Provincee and Adjoining U.S. Border Statee, 1910-50

Year	Ontario		Michigan, New York		Manitoba		Minnesota, North Dakota		Saskatchewan		North Dakota		Alberta		Montana		Britieh Columbia		Washington	
	Acreage	Yield	Acreage	Yield	Acreage	Yield	Acreage	Yield	Acreage	Yield	Acreage	Yield	Acreage	Yield	Acreage	Yield	Acreage	Yield	Acreage	Yield
	1,000 acres	Bu. per acre	1,000 acres	Bu. per acre	1,000 acres	Bu. per acre	1,000 acres	Bu. per acre	1,000 acres	Bu. per acre	1,000 acres	Bu. per acre	1,000 acres	Bu. per acre	1,000 acres	Bu. per acre	1,000 acres	Bu. per acre	1,000 acres	Bu. per acre
1910	8.8	9.4	-	-	34.7	5.1	1,440.6	4.8	506.4	7.7	1,060.0	4.0	31.1	2.5	200.0	6.0	-	-	-	-
1911	8.8	14.1	-	-	79.8	14.4	1,760.0	7.5	682.0	11.2	1,360.0	7.5	107.2	10.4	270.0	8.0	-	-	-	-
1912	9.0	16.7	-	-	100.0	12.5	2,240.0	9.4	1,780.0	12.9	1,780.0	9.5	132.0	12.8	325.0	12.0	-	-	-	-
1913	7.0	23.4	-	-	54.0	11.7	1,360.0	7.6	1,386.0	11.2	970.0	7.5	105.0	11.0	320.0	9.0	-	-	-	-
1914	5.3	15.8	-	-	40.0	8.4	1,110.0	8.5	958.0	6.4	850.0	8.5	80.0	7.7	255.0	8.0	-	-	-	-
1915	5.0	12.4	-	-	14.5	8.3	710.0	10.0	395.3	13.3	540.0	10.0	48.0	14.0	250.0	10.5	-	-	-	-
1916	4.5	9.2	-	-	15.7	13.4	820.0	9.1	542.0	12.4	650.0	9.5	95.1	13.8	320.0	9.5	-	-	-	-
1917	4.0	13.0	-	-	16.3	9.0	1,170.0	4.7	753.7	6.2	960.0	4.0	139.8	7.0	500.0	3.0	-	-	-	-
1918	15.9	12.2	-	-	108.0	10.0	1,100.0	7.8	841.0	5.0	800.0	7.0	95.9	5.0	470.0	5.0	-	-	-	-
1919	13.7	9.4	-	-	57.4	9.0	938.0	5.3	929.9	4.8	650.0	4.6	80.7	2.8	160.0	2.5	-	-	-	-
1920	21.1	10.7	-	-	146.5	7.9	1,119.0	6.7	1,140.9	5.0	761.0	5.4	103.7	7.0	260.0	3.5	-	-	-	-
1921	7.5	8.9	-	-	61.7	8.8	780.0	7.5	426.8	7.5	430.0	6.3	28.4	6.0	110.0	5.2	-	-	-	-
1922	4.6	10.7	-	-	66.7	11.0	831.0	9.9	466.2	8.8	521.0	9.5	22.2	4.0	84.0	7.0	-	-	-	-
1923	6.8	10.2	-	-	139.5	10.0	1,577.0	8.2	465.7	11.8	1,050.0	7.5	15.0	10.4	110.0	8.0	-	-	-	-
1924	6.6	11.8	-	-	323.8	10.5	2,660.0	9.1	927.1	6.6	1,948.0	8.2	15.0	3.7	246.0	7.5	1/ 1.4	10.9	-	-
1925	9.8	12.6	-	-	118.9	9.5	2,201.0	7.8	692.1	7.0	1,461.0	6.7	17.8	4.7	190.0	4.0	1.2	10.0	-	-
1926	7.7	9.8	-	-	195.4	10.5	2,094.0	7.2	520.0	7.2	1,280.0	5.8	11.9	7.0	145.0	4.5	1.0	13.2	-	-
1927	7.1	9.6	-	-	122.2	9.8	1,999.0	8.9	330.7	10.2	1,242.0	8.4	12.6	16.0	165.0	10.0	0.9	18.0	-	-
1928	8.0	8.5	-	-	81.8	9.8	1,811.0	7.6	279.4	9.5	1,085.0	7.4	6.2	9.9	183.0	8.5	0.7	16.0	-	-
1929	5.5	8.5	1/ 2.0	10.0	62.5	7.1	1,933.0	5.7	298.3	4.9	1,421.0	4.5	12.6	5.0	362.0	3.3	0.5	15.0	-	-
Average 1910-29	8.3	11.8	-	-	92.0	9.8	1,482.6	7.7	716.1	8.5	1,041.0	6.8	58.0	8.0	246.2	7.2	-	-	-	-
1930	5.2	9.8	3.0	9.5	112.0	6.5	2,462.0	6.4	431.0	9.0	1,720.0	4.8	28.0	12.0	481.0	3.7	0.3	14.0	-	-
1931	5.5	13.7	4.0	10.0	101.4	3.5	1,927.0	5.2	509.1	3.6	1,066.0	3.8	30.5	6.6	178.0	2.6	0.3	11.7	-	-
1932	6.3	9.8	6.0	10.5	49.3	4.9	1,520.0	6.1	381.2	5.8	831.0	3.6	23.0	8.7	214.0	3.5	0.3	11.0	-	-
1933	5.5	9.0	8.0	9.0	20.2	5.4	1,147.0	5.3	205.0	2.0	465.0	3.6	10.7	4.0	64.0	3.0	0.4	9.3	-	-
1934	5.7	10.0	9.0	10.0	25.6	7.0	860.0	5.5	174.7	3.1	239.0	3.8	18.1	5.8	23.0	4.6	0.5	10.7	1/ 1.0	16.0
1935	7.4	10.2	10.0	10.0	17.3	9.2	1,723.0	7.1	260.0	4.8	1,021.0	5.5	19.4	8.0	64.0	3.5	0.3	11.5	2.0	12.0
1936	5.3	6.5	11.0	5.5	89.1	4.7	930.0	4.4	366.2	3.4	214.0	2.7	13.4	5.6	16.0	4.0	0.2	13.5	4.0	9.0
1937	5.0	10.3	8.0	6.0	38.3	9.7	731.0	7.6	175.0	1.1	278.0	5.3	20.0	6.2	15.0	3.1	0.2	13.0	2.0	10.0
1938	5.2	8.5	9.0	9.0	42.7	7.0	703.0	8.5	139.0	5.2	250.0	5.0	20.0	8.0	26.0	5.0	0.3	11.0	6.0	9.0
1939	6.2	9.3	8.0	9.3	70.3	6.0	1,552.0	8.7	187.2	6.7	329.0	5.1	31.0	8.9	82.0	4.4	0.3	13.7	11.0	8.5
1940	17.5	9.7	8.0	10.0	89.5	8.9	2,202.0	9.2	232.2	7.1	612.0	6.0	42.0	10.1	107.0	7.4	0.3	12.7	5.0	10.0
1941	11.8	9.6	8.0	9.5	170.0	6.7	2,140.0	9.1	681.0	5.5	741.0	6.4	131.0	5.9	141.0	5.5	2.7	12.5	2.0	12.0
1942	24.0	10.9	6.0	8.0	227.0	8.8	2,907.0	8.6	1,056.0	9.9	1,312.0	7.0	183.0	12.0	316.0	7.7	2.2	13.7	2.0	12.5
1943	24.0	9.8	4.0	7.5	284.0	9.9	3,534.0	8.2	2,084.4	5.5	1,955.0	7.5	550.0	6.0	515.0	8.0	5.4	14.0	1.0	12.0
1944	23.6	10.1	6.0	8.2	167.0	10.6	1,631.0	7.8	939.0	6.8	802.0	8.2	191.5	6.5	199.0	7.6	2.0	12.5	-	-
1945	23.2	9.9	7.0	6.0	260.0	10.8	2,592.0	9.2	655.0	5.8	1,525.0	8.0	112.0	6.2	320.0	4.1	2.0	12.3	-	-
1946	18.0	9.4	7.0	9.0	304.0	9.8	1,648.0	8.7	455.0	5.7	762.0	6.5	62.0	10.2	74.0	7.0	1.9	13.5	-	-
1947	56.2	12.0	5.0	7.5	556.0	9.4	2,798.0	9.7	700.0	6.0	1,425.0	8.5	257.0	8.4	168.0	6.0	4.5	8.0	4.0	13.0
1948	64.3	12.9	7.0	11.0	960.0	9.4	3,300.0	10.8	600.0	7.9	1,639.0	10.0	250.0	12.2	141.0	10.0	5.6	11.0	2.0	10.0
1949	16.5	11.9	8.0	10.0	134.0	8.2	3,382.0	8.7	132.0	4.9	1,754.0	7.5	37.5	8.0	66.0	5.5	2.5	15.0	2.0	12.0
1950	19.8	13.0	5.0	10.0	300.0	10.0	2,756.0	9.1	177.0	6.8	1,649.0	8.5	48.3	9.0	68.0	8.0	1.9	10.0	1.0	14.0

1/ First year reported.

Sources: See note 2/, Table 28.

BIBLIOGRAPHY

Canada, Dominion Bureau of Statistics. Census of Canada, 1941, v.8, part 2, Agriculture. Ottawa, 1947.

_____. Census of the Prairie Provinces, 1946. Ottawa, 1948.

_____. Live Stock and Animal Products Statistics. Ottawa, annually 1918-49.

_____. National Accounts, Income and Expenditure, 1927-47 and 1948-49. Ottawa, September 1948 and March 1950.

_____. Numbers and Values of Live Stock 1906-43; Revised Estimates of Numbers and Values by Provinces and Total. Ottawa, 1944.

_____. Slaughtering and Meat Packing Industry. Ottawa, annually 1929-48.

Canada, Department of Agriculture. Annual Market Review. Ottawa, 1950 and earlier years.

_____. The Economic Annalist, v. 20, No. 1. February 1950.

_____. P.F.R.A. - A Record of Achievement: A Report on Activities under the Prairie Farm Rehabilitation Act for the Eight-Year Period ended March 31, 1943. Ottawa, 1943. 78 pp.

_____. Fifteenth Annual Report on Activities under the Prairie Farm Rehabilitation Act for the Fiscal Year ended March 31, 1950. P.F.R. Branch, Canadian Department of Agriculture, Regina, 1950. 93 pp.

_____. Progress Report 1937-47, Dominion Range Experiment Station, Manyberries, Alberta. Ottawa, 1949. 64 pp.

_____. Progress Report 1937-47, Swift Current, Sask., Dominion Experiment Station. Ottawa, 1949. 116 pp.

Canada's Sheep and Wool Industry. Reprinted from March 1948 Issue of Agricultural Institute Review. Industrial and Development Council of Canadian Meat Packers, Toronto.

Canadian Cattleman. v. 13, nos. 7, 8, 9. July-Sept. 1950.

Canada Packers Limited. The Story of Our Products. Jackson Press: Kingston, Ontario, February 1943.

Chown, W.F., Hudson, S.C., and Lewis, J.N. The Direct Marketing of Livestock. Canadian Department of Agriculture Farmers' Bulletin 107. Ottawa, November 1941 30 pp.

Gorsline, F.H., and Leckie, H.K. The Place of Hogs on Ontario Farms, Canadian Department of Agriculture Farmers' Bulletin 106. Ottawa, May 1946. 32 pp.

Hudson, S.C., Stutt, R.A., et al. Types of Farming in Canada: A Co-operative Study by the Economics Division Marketing Service and the Census Division. Farmers' Bulletin 157. Ottawa, December 1949.

Industrial and Development Council of Canadian Meat Packers: Thirteenth Annual Meeting. January 1950.

Kindt, L.E. An Economic Analysis of the Sheep Ranching Industry in Western Canada. Canadian Department of Agriculture Farmers' Bulletin 25. Ottawa, 1936. 76 pp.

Mitchell, J., Moss, H.C., and Clayton, J.S. Survey of Southern Saskatchewan. University of Saskatchewan, Soil Survey Report 12. Saskatoon, June 1944. viii + 259 pp.

Peterson, A.W., and Baird, F.F. A Study of the Dressed Hog. Canadian Department of Agriculture Farmers' Bulletin 19. Ottawa, February 1939. 16 pp.

Proskie, John, and Masciuch, W.J. Price Spreads and Profits in the Pork Packing Industry. Edmonton, March 1941. 40 pp.

Sackville, J.P., and Sinclair, R.D. Cattle Finishing in Alberta. University of Alberta College of Agriculture Bulletin 34 (2nd ed., revised). Edmonton, October 1942. 35 pp.

Schrader, F.M. The Hog Barley Ratio. Canadian Department of Agriculture, Marketing Service, Economics Division. Mimeo.

The Canadian Hog and Bacon Industry. C.S.T.A. Review. Canadian Society of Technical Agriculturists, Ottawa, May 1936. pp. 422-526.

Todd, S.E. Marketing Livestock. Agricultural Institute Review, v. 5, no. 2. pp. 25-30.

U.S. Bureau of Agricultural Economics. Consumption of Food in the United States 1909-48. Miscellaneous Publication 691. U.S.D.A., Washington, D.C., August 1949. 196 pp.; and Supplement, September 1950. 41 pp.

_____. Livestock on Farms, January 1, 1867-1935. Revised Estimates, Number, Value per Head, Total Value, by States and Divisions. U.S.D.A., Washington, D. C., January 1938. 137 pp.

_____. Livestock on Farms and Ranches on January 1, Number, Value, and Classes - 1920-39, by States. Statistical Bulletin 88. U.S.D.A., Washington, D. C., 1950. 103 pp.

_____. Meat Animals, Farm Production and Income 1922-44, Revised Estimates by States. U.S.D.A., Washington, D.C., annually 1945-49.

U.S. Production and Marketing Administration. Livestock Market News, Statistics and Related Data. U.S.D.A., Washington, D. C., 1949 and earlier years.

University of Alberta. Swine Production in Alberta. Bulletin 22, revised October 1937. Edmonton. 103 pp.

University of Saskatchewan and Saskatchewan and Canadian Departments of Agriculture. Guide to Farm Practice in Saskatchewan. October 1948. 177 pp.

Wartime Problems in the Marketing of Grain Finished Beef Cattle in Alberta. The Alberta Federation of Agriculture, Calgary, July 1944. 14 pp.

Vrooman, C.W., Chattaway, G.D., and Stewart, Andrew. Cattle Ranching in Western Canada. Canadian Department of Agriculture Technical Bulletin 55. Ottawa, February 1946. 80 pp.

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